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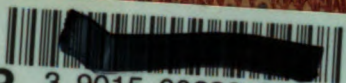
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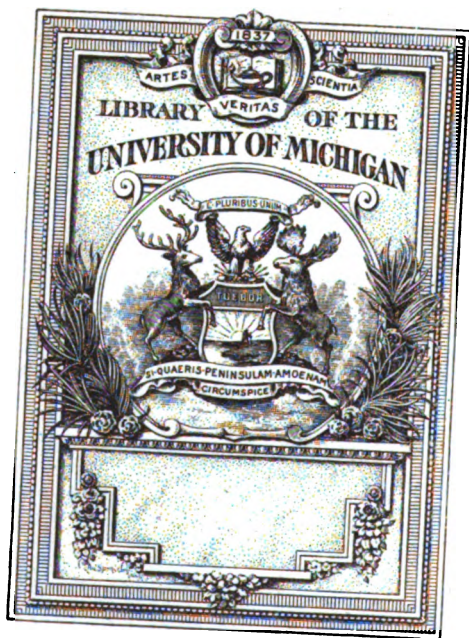


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HALF-YEARLY ABSTRACT

OF THE

MEDICAL SCIENCES:

BEING

AN ANALYTICAL AND CRITICAL DIGEST OF THE PRINCIPAL BRITISH
AND CONTINENTAL MEDICAL WORKS PUBLISHED IN THE
PRECEDING SIX MONTHS.

Apparatu nobis opus est, et rebus exquisitis undique et collectis, arcessitis, comportatis.
CICERO.

VOL. XLIV.

JULY—DECEMBER, 1866.



PHILADELPHIA:
HENRY C. LEA.
1867.

LIST OF BRITISH AND FOREIGN PERIODICALS REFERRED TO IN
"THE HALF-YEARLY ABSTRACT."

BRITISH.

Archives of Medicine.
British Journal of Dental Science.
British Medical Journal.
British and Foreign Medico-Chirurgical Review.
Dublin Quarterly Journal of the Medical Sciences.
Dublin Medical Press.
Edinburgh Medical Journal.
Glasgow Medical Journal.
Journal of Mental Science.
Lancet.
Medical Circular.
Medical Mirror.
Medical Times and Gazette.
Microscopical Journal.
Ophthalmic Review.
Pharmaceutical Journal.
Social Science Review.
Statistical Journal.

AMERICAN.

American Journal of Medical Sciences.
New York Medical Journal.

COLONIAL.

Australian Medical and Surgical Review.
Canada Lancet.
Indian Annals of Medicine.
Madras Quarterly Medical Journal.

FRENCH.

Annales de Chimie et de Physique.
" *d'Hygiène Publique.*
" *México-Psychologique.*
" *d'Oculistique.*
" *des Sciences Naturelles.*
Archives Générales de Médecine.
Bulletin Général de Thérapeutique Médicale et Chirurgicale.

Bulletin de l'Académie de Médecine.
Comptes Rendus.
Gazette des Hôpitaux.
Gazette Hebdomadaire de Médecine et de Chirurgie.
Gazette Médicale de Paris.
Journal de Pharmacie et de Chimie.
Journal de l'Anatomie et de la Physiologie.
L'Abeille Médicale.
L'Art Médical.
Recueil de Mémoires de Médecine.
L'Union Médicale.
Revue Thérapeutique Médico-Chirurgicale.

GERMAN.

Annalen der Chemie und Pharmacie.
Archiv für Anatomie physiol.
Archiv für pathologische Anatomie (Virchow).
Canstatt's Jahresbericht.
Deutsche Klinik.
Monatsbericht der Akademie zu Berlin.
Preussische Medicinal Zeitung.
Schmidt's Jahrbücher.
Vierteljahrsschrift für die Practische Heilkunde.
Vierteljahrsschrift für Praktische Pharmacie.
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Wiener Medizinische Wochenschrift.
Wiener Medizinische Zeitung.
Würzburger Medizinische Zeitschrift.
Zeitschrift für Rationelle Medizin.
Zeitschrift d. k. k. Gesellschaft d. Aerzte zu Wien.
Zeitschrift für Medizin (Küchenmeister).

ITALIAN.

Annali Universali di Medicina.

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HALF-YEARLY ABSTRACT

OF

THE MEDICAL SCIENCES,

ETC.

PART I.

PRACTICAL MEDICINE, PATHOLOGY, AND THERAPEUTICS.

SECT. I.—GENERAL QUESTIONS IN MEDICINE.

(A) CONCERNING HYGIENE.

ART. 1.—*On the Mode of Propagation of Cholera.*

By Mr. JOHN SIMON, F.R.S., Medical Officer of the Privy Council,
(*Official Memorandum*, July, 1866.)

THE following observations on the mode of propagation of cholera are from the official memorandum of the Medical Officer of the Privy Council, on the precautions to be taken against the epidemic under the Regulations issued by the Lords of the Council and otherwise :—

“That such precautions (never unimportant where human health is to be preserved) are supremely important when the spread of cholera is to be prevented, is a truth which will best be understood when the manner in which cholera spreads is considered. Happily for mankind, cholera is so little contagious, in the sense in which small-pox and typhus are commonly called contagious, that, if proper precautions are taken where it is present, there is scarcely any risk that the disease will spread to persons who nurse and otherwise closely attend upon the sick. But cholera has a certain peculiar contagiousness of its own, now to be explained; which, where sanitary circumstances are bad, can operate with terrible force, and at considerable distances from the sick. It appears to be characteristic of cholera—not only of the disease in its developed and alarming form, but equally of the slightest diarrhoea which the epidemic influence can produce—that *all matters which the patient discharges from his stomach and bowels are infective*; that the patient's power of infecting other persons is represented almost or quite exclusively by those discharges; that they, however, are comparatively non-infective at the moment when they are discharged, but afterwards, while undergoing decomposition, acquire their maximum of infective power; that, if they be cast away without previous disinfection, they impart their own infective quality to the excremental matters with which they mingle, in filth-sodden earth or in depositories and conduits of filth, and to the effluvia which those excremental matters evolve; that if the infective material, by leakage or soakage from drains or cesspools, or otherwise, gets access even in the smallest quantity, directly or through porous soil, to wells or other sources of drinking-water, it can infect, in the most dangerous manner, very large volumes of the water; that the infective influence of choleraic discharges attaches to whatever bedding, clothing, towels, and like things have been imbued with them, and renders these things, if not disinfected, capable (as the cholera patient himself

would be capable, under the same conditions) of spreading the disease in places whither they are sent for washing or other purposes; that, in the above-described ways, even a single case of disease, perhaps of the slightest degree, and perhaps quite unsuspected in its neighborhood, may, if local circumstances co-operate, exert a terribly infective power on considerable masses of population. 'If local circumstances co-operate,' however, is the stated condition for that possibility; and it will be observed that the essence of the sanitary precautions, which have been recommended to nuisance authorities and others, is to annihilate those 'local circumstances.' The choleraic infection does not seem able largely to injure any population unless a filthy state of things be presupposed. It is presupposed that the atmosphere or the drinking-water of the population is impure with the most loathsome of impurities—that the infective material has had opportunities of action which decent cleanliness would not have afforded it—that, in inefficient drains or cesspools, or other like depositories, it has had time to develop its own infective power, and to render other stagnating filth equally infective with itself; and that, from such foci of infection the disgusting leaven of the disease has spread, in air or water, to be breathed or swallowed by the population. In this view of the case, it will be understood that works of sewerage, house-draining, and water-supply, properly executed and properly used, give to town populations an almost absolute security that cholera, if introduced among them, can have no means of spreading its infection. And equally it will be understood that, in the absence of those permanent safeguards, no approach to such security can be got without incessant cleansings and disinfections, or without extreme vigilance against every possible contamination of drinking-water."¹

ART. 2.—*On Disinfection, with especial reference to Cholera.*

By DR. MAX PETTENKOFER.

(*Schmidt's Jahrbücher*, 1866, Band cxxxi.)

The following is an abstract of a paper published in the *Zeitschrift f. Biologie*, 1866:—

The excretions of cholera patients are, in their recent state, generally either neutral or feebly alkaline; but after the lapse of a short time they become decidedly alkaline. All means which prevent the excretions from becoming alkaline, change the ordinary course of their decomposition, and all disinfectants against cholera are to be valued accordingly as they are able to prevent the commencement of ammoniacal decomposition in the urine and fæces. The agents that fulfil this purpose are, metallic salts, mineral acids, and carbolic acid, by means of which urine and fæces may be preserved for many months in an acid condition. Among metallic salts, the sulphate of iron deserves the preference, both on account of its activity for the object to be attained, and also on account of its cheapness and of its ready accessibility in any quantity. The quantity required will depend upon whether the excretions to be disinfected are still recent, or have already undergone ammoniacal change. For the disinfection of cesspools, where change has already taken place, the salt must be added in concentrated solution until the odor of ammonia and of sulphuretted hydrogen is completely removed, or until the

¹ "If unfortunately the only water which for a time can be got should be open to suspicion of dangerous organic impurity, it ought at least to be boiled before it is used for drinking, but then not to be drunk later than twenty-four hours after it has been boiled. Or, under medical or other skilled direction, water, in quantities sufficient for one day's drinking in the house, may be disinfected by a very careful use of Condy's red disinfectant fluid. This should be added to the water (with stirring or shaking) in such number of drops that the water, an hour afterwards, shall have the faintest pink color which the eye can distinctly perceive. Filtering of the ordinary kind cannot by itself be trusted to purify water, but is a good addition to either of the above processes. It cannot be too distinctly understood, that dangerous qualities of water are not obviated by the addition of wine or spirits."

contents of the pit, after stirring, have an acid reaction. For recent excrement, the average quantity required for each person will be about an ounce daily. The most certain method is to have the excrement disinfected before it is allowed to pass away into the pit or sewer. It does not lose its proclivity to every kind of change, nor all fœtor; but the ammoniacal change will with certainty be delayed for months by the addition of the above-mentioned quantity of sulphate of iron. The excrement may therefore always be conveyed away from the vicinity of human dwellings while still in an acid state. The fœtor cannot be removed by any means, and can only be concealed by stronger penetrating odors.

The prevention of ammoniacal change in excrement may also be effected by mineral acids, as the sulphuric and hydrochloric, and also by carbolic acid; but the practical applicability of these agents is very limited when compared with that of sulphate of iron. If excrement already ammoniacal be treated with sulphuric or hydrochloric acid, much carbonic acid and sulphuretted hydrogen will be developed—substances the development of which should be avoided with all possible care. The mineral acids, moreover, act not only upon iron and zinc, but energetically upon the mortar of the pit, and would be neutralized by it. Sulphate of iron, on the contrary, prevents the formation of sulphuretted hydrogen, and affects neither iron, zinc, nor mortar, nor is neutralized by them.

Another agent that possesses some, if only a limited, applicability as a disinfectant, is sulphurous acid. This is certainly effectual in preventing the development of sulphuretted hydrogen, which it decomposes to form sulphur and water. Since, however, it is not alone in the destruction of sulphuretted hydrogen, but far more in the establishment of an acid reaction, that we seek the essentials of disinfection, the use of sulphurous acid alone is attended by the same disadvantages as the use of the other mineral acids. In the combined form, as a sulphite, the sulphurous acid is wholly inoperative, and cannot in the least delay the commencement of alkaline reaction. It even seems to conduce to this reaction; for urine treated with sulphite of soda containing some excess of acid, then neutralized by carbonate of soda, then feebly acidified by acetic acid, will become alkaline some days sooner than the same urine if left without admixture. The presence of a sulphite can, therefore, never be regarded as an impediment to the ammoniacal decomposition of urine and feces. It is only the free sulphurous acid that possesses this property, and certainly not in a greater degree than any other free mineral acid. But as sulphurous acid is easily obtained in a gaseous form (by burning sulphur, or by treating sulphites with concentrated sulphuric or hydrochloric acid), it must be retained upon the list of useful disinfectants, especially for places that cannot be reached by fluid agents, such as inaccessible sewers. For the disinfection of linen and clothes, it is also at least as useful as chloride of lime, without being so destructive to the textures.

The carbolic acid, when used in very small quantity, prevents the ammoniacal decomposition. Properly diluted, it scarcely acts at all upon iron or zinc, and very little upon mortar; and it covers the fœtor of excrement completely, whilst its own odor, when diluted, is very bearable. It is not, however, readily obtainable in large quantities; it is dear, and is inferior to sulphate of iron in other respects; nevertheless, it is a good and useful disinfectant. One part of carbolic acid should be dissolved in twenty parts of water; and a quarter of a litre of this solution will be sufficient for the daily excreta of four persons, and will keep them acid until they can be conveyed away.

In order that disinfection may be of any practical utility, it must be thoroughly carried out. Partial disinfection is of no use whatever. It is merely lost labor to acidify the excreta day by day, and to let them pass into a pit containing matters already ammoniacal; and it is only when the pit and its contents have been completely disinfected that the disinfection of single evacuations can be of advantage.

The use of chloride of lime is condemned by Dr. Pettenkofer as irrational, since it is an alkaline agent. It would be paradoxical to combine it with

sulphate of iron; for each neutralizing the other, no disinfection would be effected at all, unless one of the two was in greatly preponderating quantity. It might also occur that a cesspool, already rendered acid by sulphate of iron, might receive so much chloride of lime as to restore its alkalinity, so that the ammoniacal decomposition would be promoted.

Since disinfection is manifestly a prophylactic measure, it is obvious that it ought not to be delayed until the cholera has actually shown itself. When once an undoubted case of cholera has occurred in any house, disinfection is of little value there as regards the inmates, who have already been exposed to the poison; so that it will depend upon individual predisposition, and the duration of the incubatory stage, whether more of them will be attacked. Disinfection has then its only value as regards the future intercourse that other persons may have with the place, and is useless for those who have already been there, and who, as well as the inmates, may be infected. Visitors may even carry away germs to their own houses before they show any clear symptoms of disease themselves; and these germs may be developed or not, according to local and individual predisposition. In all past epidemics of cholera, disinfection has only been commenced after the outbreak of the disease, except at the cholera hospitals of Altenburg and of the town of Zwickau, when the prophylactic disinfection with sulphate of iron was generally and in good time carried out; and where, also, especially in Zwickau, the consequences can scarcely be denied.

It must be admitted that the times for commencing and for leaving off disinfection have not yet been certainly determined; but according to past experience, the level of the surface-water affords a valuable criterion. It seems that the time when the surface-water recedes from an unusually high level is to be considered as the period of danger.

[For the disinfection of air, Dr. Badstübner (*Berlin Klin. Wochenschr.*, 1866) recommends the permanganate of potash (Condy's fluid), and especially for sick-rooms. Béranger-Ferand (*Gaz. de Paris*, 1866) considers the same agent to be the best disinfectant in cholera. Both writers think it preferable to the sulphate of iron, except when its price is a difficulty in the way. Badstübner also cites cases in which it was of great value in destroying the fœtor of sputæ.

Dr. Th. Clemens, of Frankfort-on-the-Maine (*Deutsche Klinik*, 1865-6; *Schmidt's Jahrbücher*, 1866), has observed the immunity from cholera of copper-smiths. Hence he recommends as a cholera disinfectant a *spirit of chlorate of copper*, and uses the same preparation, both internally and upon the skin, as an actual preservative.

His formula is as follows: Liq. cupri perchlorati concent., ʒij.; chlorof., ʒi.; spir. vini, ʒvj. As a preservative, two or three drops of this compound, twice a day; and he also orders it to be rubbed into the abdomen. As a disinfectant, the same fluid is to be put into a common glass spirit-lamp, and the wick lighted. A vapor of chlorate of copper is formed, which in five minutes will pervade a chamber of five thousand cubic feet so completely, that all objects contained therein will be impregnated. In this way, both the air and all matters will be quickly and without danger disinfected. Dr. Clemens holds the facility with which this can be done as a great advantage; and he has never seen, even in children, the slightest injurious action from the vapor.]

ART. 3.—*The Influence of Impure Water on the Development of Epidemic Cholera.*

By Dr. NORMAN CHEVERS.

(*Indian Annals of Medical Science*, August, 1866.)

Dr. Norman Chevers supplies an instructive illustration of the influence of impure water in the development of cholera, from the presumed chief focus of the disease, the delta of the Ganges. In a valuable article on the Means of

preserving the Health of Seamen, especially of those frequenting Calcutta and the other Indian ports, he states that one of the leading Calcutta physicians has recently examined the whole line of river bank along which the shipping are moored.¹ This gentleman commences his report by saying that his object is to draw attention to the causes which, at certain seasons of the year, are actively engaged in destroying those who are condemned to live on this "polluted river," which he, not too emphatically, designates as "the Maelstrom of Death."

"His metaphor," writes Dr. Chevers, "points to that stern reality, the poison of cholera, which, discharged at various points, in the shape of sewage, upon the river bank and into the centre of the stream, pollutes the water and the air; and, added to other malignant influences common to all rivers in malarious countries at remote distances from the sea, converts a haven of refuge into a port of danger. He shows that the night-soil of Calcutta is deposited in the Hooghly, at midstream, at a point opposite the night-soil ghât, at the rate of 180 tons a day; that, during certain months of the year, the river-water at Cossipore, two miles up the stream, is, owing to the large quantity of sewage matter which it holds in solution, quite unfit for human consumption; and that, under the influence of an unusually high tide, the water at Barrackpore even, thirteen miles further up, becomes contaminated; and yet the river-water is drunk by sailors in ships moored at various points between this reservoir of night-soil and the sea. Immediately below the night-soil ghât are a large food-market and a landing-place for boats, to which are brought rice, mangoes, &c., for the consumption of the town.

"Again, near Champatola Ghât may be seen a large quantity of stable manure and other refuse, and near Prosona Coomars Tagore's Ghât a still larger quantity, deposited with a view to filling up hollows and gaps in the bank. 'Conceive,' Dr. — exclaims, 'the loss to agriculture, the gain to the poisoned atmosphere of the harbor!' Next, the Burning Ghâts. Admitting that the process of cremation pollutes a small area only, and that those who live within that area have become habituated to, and so remain unaffected by it — [I once had the misfortune to live within that area. I became 'habituated' to it, but never ceased to be 'affected' by it. A most horrible and diabolical smoke, thick and heavy, plentifully throwing down a black greasy snow, and with an odor in comparison with which the fumes of burning hospital blankets are an Arabian perfume] — still a pernicious influence must extend to the ships lying to leeward, when the wind blows over them from these centres of incineration of human flesh.

"Then the sewers. Of these Dr. — counted twenty-two between the ghât opposite the Chitpore Dispensary and Hastings Bridge, a distance of four miles. Between these points are the principal moorings of the harbor. There are others lower down, such as the 'Kidderpore' and 'P. & O.' moorings, &c.

"The mouth of each sewer opens directly upon the commencement of the soft muddy bank, on the irregular surface of which much of the contents is retained; and in February, March, April, May, and June, the poison of cholera, from this source, is in active operation. It is worthy of note that a sewer empties itself close to each of the principal bathing ghâts. As if the sacred stream was not already poisoned enough by the daily Augean deposit of night-soil, the bathers are furnished with a special fountain for themselves. Some of the sewers have acquired great notoriety, and it has long been known that the ships moored near them have sent more cases of cholera to the hospital than others which have been moored elsewhere. 'It is idle,' Dr. — exclaims, 'to talk of unripe fruits and bad lemonade; of Jack's imprudence in exposing himself to the sun; of his drunken habits, &c., and then to add — no wonder he gets an attack of cholera! Doubtless, all these have their influence in predisposing him to the disease, or in evoking it; but the *fons et origo* remains, and we must not continue to shut our eyes to the fact.' He then cites Mr. Hugh Macpherson's observations, and goes on to show that, of 392 cases of cholera

¹ "Cholera in the Port."—*The Indian Medical Gazette*, July 1st, 1866.

which have been admitted into the Medical College Hospital during the three years ending in 1865, 189, almost half, have come from the ships in the harbor. Of the sailors who live on board their ships, 3 per cent. annually are taken to the hospitals; whilst, of those who live in Lal Bazaar and its purlieus, 20 per cent. are sent there. Of the admissions from the river, *two-thirds* are from cholera, whilst of those from the shore only *a tenth part* are attributable to that disease! Of the 189 cases sent from the river to the Medical College Hospital, the Esplanade moorings have supplied 34 per cent., the remaining 66 per cent. being brought from *twenty-five* other moorings. During the same period 303 cases of cholera have been received into the General Hospital from ships. Of these, 15 per cent. have come from the 'Esplanade,' and 17 per cent. from the 'Cooly Bazaar' moorings, whilst the remaining *sixty-eight* have been distributed over *twenty-six* other moorings! Very few cases are taken to the Medical College Hospital from 'Cooly Bazaar' moorings, owing to the great distance. The cases which occur in them are sent to the General Hospital. Cases from the 'Esplanade' moorings, on the other hand, are principally taken to the Medical College Hospital, it being the nearest of the two. It thus appears that the 'Esplanade' and 'Cooly Bazaar' moorings are amongst the favorite haunts of cholera. It is urged that crowding may partly account for these results. But we find that the 'Prinsep's Ghât' moorings, where, in Dr. —'s recent excursion, there was a greater crowd of ships than elsewhere, have, during the period under review, sent only nine cases of cholera to the General and Medical College Hospitals, the 'Esplanade' moorings having sent 94, and the 'Cooly Bazaar' 61. The former of those two is now the most prolific in cholera-poison; the latter, though still pregnant with it, having materially improved in this respect during the past few years. The comparative immunity of the 'Prinsep's Ghât' moorings from cholera may be due (and although Dr. — is not prepared to state it as a fact, he believes that it is so) to the sewer which opens into the river opposite to these moorings, conveying only surface-drainage. He believes that conservancy laws have been brought to bear upon the 'Cooly Bazaar' locality generally; and that great improvements have been made in the river bank at this point. The result is encouraging, and should lead to further endeavor."

ART. 4.—*On the Trichina and Trichinosis.*

By M. DELPECH.

(*Annales d'Hygiène Publique*, Julliet, 1866.)

In an elaborate report on various papers on trichinosis, communicated to the Academy of Medicine, Paris, and from a review of the whole subject, M. Delpech arrives at the following conclusions:—

"Although the symptoms and gravity of trichinosis had been fully known only since the year 1860, still the disease was by no means a recent one, and its existence in Germany at a remote period, in an epidemic form, could be readily demonstrated.

"It was then confounded with various other affections, and was more especially looked upon as a peculiar and exceptional variety of typhoid.

"The disease has since given rise to much arduous research, and can scarcely in future escape detection, when it has been attentively watched in every stage of its development.

"Disturbance of the digestive organs followed by œdema of the face, and subsequently by severe muscular pain, and by a degree of dyspnoea which may even end in asphyxia on account of the impossibility of the movements of respiration, is an aggregate of symptoms not to be met with in any other affection. These morbid manifestations correspond with the successive birth in the digestive tube, and of the passage into the muscular structures of trichinæ in numbers sometimes enormous, but in general proportionate to the quantity of parasites which have been swallowed. Their presence can be demonstrated during life

by the microscopic inspection of a minute particle of muscle removed from the patient's person with peculiar instruments, and by an innocuous and almost painless operation. In doubtful cases, the diagnosis can, therefore, at a certain stage of the disease, be confirmed by direct inspection.

"In general, one tainted animal will infect many persons. Hence more or less widely-spread and severe epidemics, according to the condition of the animals, the variable quantity of the flesh consumed, and the mode of cooking adopted.

"Certain animals are, as well as man, liable to trichinosis. In carnivora and omnivora the complaint occurs spontaneously, and herbivora may also artificially become affected, but only by the intervention of the human subject.

"In man the disease arises from the consumption of raw or insufficiently cooked pork flesh, tainted by the presence of trichinæ.

"In pigs the propagation of the parasites is referable to several causes. They eat trichinized animals, especially rats, dead or alive, or abandoned on dung-hills or in fields. They feed on human excrement, or on the dejecta of pigs which have recently consumed trichinized flesh, and which excrete, with the contents of their intestines, fecundated female trichinæ. Moles, earth-worms, the larvæ of flesh-flies, the beetroot worm, have nothing to do with the transmission of trichinæ.

"When the disease occurs spontaneously in pigs, it seldom gives rise to characteristic symptoms, and microscopic inspection alone leads to the knowledge of the parasites. In the human subject, the cyst, when encrusted with calcareous salts, can easily be discerned with the naked eye, in the shape of white patches, and the microscope affords further conclusive evidence. In the countries where trichinosis prevails, this mode of examination has become a general precaution, whether carried out by individuals or by order of the Government.

"Merely optional microscopic examination, although doubtless useful, can give no absolute security, on account of the necessary absence of regularity and supervision. Compulsory examination alone can yield any seriously beneficial results. Two objections are urged against it—viz., the difficulty of carrying it out, and the uncertainty of the information supplied in cases in which the animals are but slightly affected. These are, it is true, serious considerations, but nevertheless the advantages derivable from compulsory microscopic inspection are such that the measure should unhesitatingly be adopted in all countries contaminated by trichinosis.

"France appears hitherto to have escaped the contagion, and no cases have yet been adduced of acute or encysted trichinosis, nor have any records been brought forward of former epidemics, as in Germany. The rats of the slaughter-houses do not seem to have been infected; at least, not habitually. The immunity is to be traced to the different customs of both countries, and to the more complete boiling to which the meat is submitted in France, which checks the development and propagation of the parasites.

"A temperature of 75° Cent. (167° Fahr.) alone can secure the destruction of the trichinæ. The same result may be attained by thorough and protracted salting, or by a hot fumigation of twenty-four hours' duration. Cold smoking does not destroy the worms."

M. Delpèch further submitted the following resolutions to the approbation of the Academy:—

"1. The apprehensions awakened in France by the epidemic of trichinosis in Germany, have not hitherto been justified by any facts observed in this country.

"2. The custom prevalent in France, of thoroughly boiling pork flesh, explains this immunity, and should be more than ever persevered in.

"3. As no epidemic, and even no isolated cases of trichinosis have been observed, it is unnecessary to resort to any special measures of public hygiene, or to recommend the adoption of a general compulsory microscopic examination of pork flesh.

"It might nevertheless be useful to establish a service of inspection in certain towns provided with public slaughter-houses, with a view to ascertain

by authentic returns the existence, the absence, or the proportion of trichinosis observable in the porcine race.

"4. Certain conditions of rearing and feeding being calculated to influence considerably the development of trichinosis amongst pigs, it would be well to distribute in the agricultural districts, circulars or tracts for the promulgation of the precautions to be adopted with a view to the preservation of the animals."

These resolutions, drawn up by the reporter, with the assistance of M. Raynal, were adopted without discussion.

ART. 5.—*On the Influence of the Volcanic Emanations at Santorin upon the Health of the Population and Vegetation.*

By M. DA COROGNA.

(*Archives Générales de Médecine*, Août, 1866.)

In a note addressed to the Academy of Sciences, Paris, M. Da Corogna stated the following respecting the influence of the recent volcanic eruption in the roads of Santorin, upon the inhabitants and vegetation of the island:—

1. The eruption exercised a manifest effect upon the health of the people.
2. It gave rise particularly to inflammation of the conjunctivæ and fauces, bronchitis, and disturbance of the digestive organs.
3. The acid ashes were the direct cause of the inflammation of the conjunctivæ, while the other disorders were to be attributed to the sulphurous acid.
4. Plants also suffered from the eruption, especially the Liliacææ. This was probably due to the hydrochloric acid diffused at the commencement of the eruption. On the other hand, the hydrochloric acid emanations appear to have exercised a beneficial influence upon the vine disease, owing, perhaps, to the destruction of the oidium by them.

ART. 6.—*Impure Water as a Source of Malaria.*

By Mr. D. J. MOORE, L.R.C.P., Marwar Political Agency.

(*Indian Annals of Medicine*, August, 1866.)

Mr. Moore, from an inquiry into the truth of the opinions generally ascertained regarding malaria, argues that there are not wanting special instances of individuals in whom the use of impure water has been immediately productive of malarious affections. Dr. Mackinnon has mentioned cases of this description.¹ Similar occurrences have fallen under his own observation. Mons. Boudin records that, in 1834, eight hundred soldiers embarked at Bona in three transports. On board one ship ninety-eight men suffered from remittent fever. On inquiry it appeared the water had been taken from a known malarious locality. The ships supplied from other sources did not furnish one case. Nothing, Mr. Moore thinks, applies stronger than both the negative and positive evidence on this point. At the same time, continental writers, as Hinke and Grooze,² assert, marsh water may be taken in Holland and Hungary without danger; but the latter mentioned writer remarks, "It is customary to mix some kind of spirit with it," which practice probably tends to neutralize the noxious principle. In India, the only tank or stagnant water which may be safely drunk, without previous filtering, is that covered with a sort of green weed, something resembling "duck weed," and belonging to the *Lemnæ* order. This growth imparts a greenish color to the water, and renders it rather un-

¹ The Author's *Health in the Tropics*, p. 66.

² Quoted by Parkes, *Pract. Hygiene*, p. 52.

palatable. It, however, possesses a remarkable filtering power, attracts numbers of animalculæ, which would otherwise disport in the clear fluid beneath, and be liable to be taken away and introduced into the human system. The natives of most parts of India are perfectly aware of this provision of nature, and drink with great caution any tank water where this weed does not exist. An anecdote illustrating the foregoing is told of Sir Charles Napier. When Commander-in-Chief, at an inspection of a native regiment in the Punjaub, he observed the *beheesies* drawing water from a foul-looking tank, covered by a slimy greenish weed. This was ordered to be cleared away, the result being that the water soon turned putrid, and it was not until a fresh crop had grown that it became wholesome and drinkable. The precise manner in which this weed or plant acts in purifying water is not known, but it probably evolves oxygen, which may exert some beneficial influence. It is stated that fishes even die on the removal of all vegetation from ponds; and the utility of a piece of moss, introduced into the basin where gold fish are kept, is well known. Aquatic weeds have been imagined to destroy malaria in the same manner as trees have been supposed to do.

"In the course of this paper," Mr. Moore continues, "it has been shown that malaria is not the product of either swamps, marshes, drying-ground, or decaying vegetation. It is also demonstrated with equal certainty, that if malaria is evolved from the earth, it must be formed in surfaces of the most varying composition. It must, moreover, be evident that the generally-received characteristics of malaria are not in accordance with the so-called facts usually quoted in their support. Lastly, various authorities have been named, who more or less strongly disbelieve in the existence of malaria. To deny the existence of a poison capable of inducing intermittent in the human system is, however, I think, incompatible with what we know of other maladies. No one, for instance, would, at the present period (although attempted in years gone by), dispute the formation of hydrophobia poison. Typhus fever also, together with typhoid, variola, scarlatina, syphilis, and many other diseases, are all characterized by their peculiar phenomena; and are all caused by distinct poisons. The conclusion, therefore, that a specific malarious poison exists is not only reasonable, but inevitable. But that this deleterious agent is not formed in, and exhaled from, the whole surface of the earth is fairly open to doubt. It is indeed questionable if malaria exists in the atmosphere at all. There are, perhaps, more cogent arguments in favor of water being the sole medium by which malaria is introduced into the system. The decline of ague in Scotland, England, and other European countries, has been contemporaneous with the provision of better drinking-water. When Englishmen maintained hundreds of 'stew-ponds,' to supply the hebdominal fish diet; when, instead of carpets, fresh green rushes were placed on the floor every morning; when, in the absence of glass windows, the night air penetrated freely into human residences; when agriculture was rude, and draining unknown, our forefathers suffered severely from ague, fevers, and dysentery. But the 'stew-ponds' could not have produced these diseases, as to preserve the fish they would be maintained full of water, and malaria is said only to arise from foggy and drying land. Rushes on the floor would not give rise to ague; for, as already demonstrated, the disease occurs in localities entirely destitute of vegetation, either living or dead. With regard to drainage, Dr. Christison has proved that ague ceased in Scotland before this measure became general. It is, however, certain that at the period when Englishmen and Scotchmen suffered from ague, then water supply was most impure, and unfit for the purposes of human consumption. It is also equally true that malarious affections disappeared from the land as the introduction of pumps superseded the use of the old, open draw-well, or still more objectionable supplies.

"But however impure the water may have been in European countries, it can scarcely, even at the worst, have attained to the minimum condition of defilement prevalent in India. I write more particularly of the Mofussil. Here wells are almost invariably open, and frequently the only water obtainable is from the village pond. Leaves of trees, dust, dirt of every description, and frequently both dead and living insects and reptiles may be seen floating on the

surface. And as a climax, village tank-water is defiled by the solid and fluid *excreta* of the hundreds of buffaloes and kine which twice a day are brought to drink; and also by the ablutions, and not unfrequently by the *excreta*, of the villagers themselves! I have, indeed, many times seen the latter fill their water-pots within six feet from a micturating buffalo! Our own drinking-water is even now carried in skins very imperfectly tanned, the interior of which can never be cleansed; and it is too often cooled in dirty jars. But water from a tolerably pure source, even when maltreated in this manner, would be tasteless, when compared with that drawn from the village tanks. I quote from a recent official report.¹ 'When one remembers that this tank-water washes down from the fields a great proportion of the ordure, the remains of dead animals, and every conceivable filth that accumulates in the environs of a village, and that shallow and unrenewed, it remains stagnant and reeking under a tropical sun, it does not seem strange that the people who have no other drink should become ill. We visited one of these tanks; we saw the people going into the water, and before filling their vessels washing their legs and feet in the very water they were going to drink. We took some of the water out in a tumbler, and found it of a yellow color, and so thick that we could not see through it.' On being submitted to examination, the water was found to contain a large *percentage* of organic matter, and numerous animalculæ of the protozoic variety. And here it may be mentioned that, while the air over marshes, when submitted to chemical experiment, does not materially differ from that of other places, marsh or malarious water always contains a large amount of vegetable organic matter. From 10 to 40 or 50 grains per gallon is not uncommon, and in some instances there is more. And this may probably be the poison which excites malarious fever. It is certainly more consistent with our general knowledge of these matters to imagine that the fever, which so frequently devastates Indian Moffussil districts, is due to the impure water consumed, rather than to an variable poison in the air, which arising from the whole surface of the land, is indestructible by the otherwise all-powerful oxygen. And this view is, moreover, strengthened by the immunity from fever which those appear to possess who scrupulously avoid drinking impure water, and who confine themselves to soda-water when travelling in the Moffussil. Further research, experiment, and discussion, regarding the cause of malarious fever, is certainly demanded from medical officers in India."

ART. 7.—*Influence of Sewing-Machines on the Health and Morals of Workwomen.*

By M. GUIBOUT.

(*Journal of Practical Medicine and Surgery*, July, 1866.)

Any one who has witnessed the wonderful activity of that ingenious contrivance, the sewing-machine, worked by intelligent seamstresses, would scarcely imagine that it is calculated in some degree to endanger the morals of the workwomen. This, however, appears to be the case, if we can trust a recent communication of M. Guibout to the Medical Society of Hospitals.

"A month ago," says this learned practitioner, "two women, entirely unknown to each other, and employed in different factories, applied to me for advice on the same day.

"The first was a pale, lymphatic subject, with hollow discolored cheeks, much bent and emaciated, and suffering from severe epigastric pain, dyspepsia, incessant leucorrhœa, and a marked state of general debility. She attributed all her symptoms to the effects of the sewing-machine. Before her admission into the factory, where she was in the habit of using it, she was strong, fresh-colored, in vigorous health, and had never been affected with fluor albus. Since

¹ By Mr. Campbell, Supt. of Police, Canara.

seven or eight months she had observed a gradual decay in her health, strength, and appearance, and leucorrhœa had set in, growing daily more and more copious. 'Nor am I,' said she, 'the only sufferer; several other young women in the establishment are similarly affected from the same cause. The constant action of the lower extremities, and the see-saw motion of the entire body, wear them out, and cause pains in the back and stomach, and a leucorrhœal discharge.' She further stated that she had not noticed in her own case any peculiar sexual excitement, but to this she was not liable under any circumstances. It was not so with several of her companions, who were often compelled to discontinue their labor, and to have frequent recourse to lotions with cold water.

"My second patient was a strong, dark-haired woman, of sanguineous temperament. She worked a sewing-machine in a very extensive establishment, and had enjoyed perfect health up to the period of her admission into the factory, where she remained about a twelvemonth, being obliged to leave on account of the fatigue and pains caused by the nature of her occupation. She also alluded to the excitement of the sexual organs. 'Five hundred women are employed in the house,' said she, 'and two hundred at least experience the same effects as myself. The workwomen are constantly changing, and are unable to persevere at the trade for any length of time. They enter the house in good health, but all leave it thin and debilitated.'"

Dr. Thibault had already made the same remark, and although, in the short debate which followed, M. Vernois expressed his opinion that the disadvantages complained of were exceptional, it is now sufficiently demonstrated that these facts are by no means uncommon, and it is therefore highly desirable that mechanical skill should devise for sewing-machines some other motive power than the workwomen's feet.

[Dr. William Ord, who made, in 1863, an investigation into the sanitary condition of dressmakers and needlewomen in London for the Medical Department of the Privy Council, arrived at a conclusion different from that of M. Guibout and Dr. Thibault on the effects of the sewing-machine upon the health of the workers. He says (*Sixth Report of Medical Officers of the Privy Council*, p. 381): "I have found that the influence of the sewing-machine is, for the most part, beneficial to the workers. In the first place, and this is probably the essential point, they can earn far more than the needle-workers. Even where the payment is for the time the machinists are paid half as much again as the needle-workers, and at piece-work the difference is still greater. In the second place, the muscles of the limbs and trunk are kept in exercise—a circumstance which, associated with the power of getting good food, appears to tend to improve the health of the machinist. On the other hand, the cramped position rendered necessary is alleged to cause pain in the chest and indigestion; and the continual noise made by the machines is said, in some cases, to cause headache and giddiness. But touching the important fact that, comparing in a given form the machinists and the needlewomen, the comparison, as regards healthfulness of appearance, is greatly in favor of the machinists, there can be no doubt."

More recently, Dr. Down, Superintendent Physician of the Redhill Asylum for Idiots, has made some observations confirmatory of M. Guibout's conclusions. His attention had been attracted by the constant recurrence of cases characterized by pallor, lassitude, pain in the back, leucorrhœa, and excitement of the sexual organs. He was led to investigate the employments of these patients, and found that they almost invariably worked habitually at the sewing-machine, and that they were chiefly employed in the manufacturing work which is carried on in the east end of London, and which is done by machines worked with treadles moved alternately by the feet. These machines are heavy, and require considerable exertion on the part of the operator.—*The Lancet*, Oct. 20th, 1866.

Dr. Down's and M. Guibout's observations refer to special evils arising from the use of the sewing-machine; Dr. Ord's to the comparative health of machinists and needlewomen.]

ART. 8.—*Impure Water as a Cause of Typhoid Fever.*

By Dr. SEATON.

(The Lancet, October 20, 1866.)

Page-green is a detached hamlet in the parish of Tottenham. It numbers some eighty or ninety houses, the oldest of which date only eleven years back; the newest have their newness still fresh upon them. Certain nuisances to which this hamlet was subjected, one in especial arising from the distribution of the sewage of Tottenham over the land in the immediate vicinity, recently led to an appeal being made for relief to the Privy Council. Dr. Seaton was instructed by the Council to make an investigation of the medical aspects of the question, and his inquiry brought to light certain most interesting and instructive facts.

It would appear that typhoid fever and diarrhoea have prevailed in Page-green during the last two years to a remarkable extent, but with little fatality. In particular, especial attention was directed to an outbreak which began in 1864, became greatly extended by Christmas in that year and during the spring of 1865, and has continued to the present time. From information which Dr. Seaton obtained through the local practitioners (Dr. May, Dr. Pool, Mr. Hall, and Mr. Wolstenholme), as well as from a personal examination of fifty-six houses, it was ascertained that there had been a case of fever in twenty-nine. Nearly sixty cases of typhoid fever were vouched for on medical authority, and Dr. Seaton satisfied himself that the number of cases which had taken place in the hamlet was not short of a hundred. Four deaths only from this cause had been registered in the sub-district; but this slight mortality is accounted for by the majority of the cases having been young children.

In seeking for the cause of this continued prevalence of typhoid fever, attention was in the first instance directed to the supply of drinking-water. The houses inspected derived their water from two sources—surface-wells or the water-works of the Tottenham Board of Health. None of the houses had on the premises a supply from both sources. An inquiry as to the effect of this difference in the source of water supply gave the following results:

Of twenty-four houses deriving their drinking-water from surface-wells, a case or cases of fever had occurred in nineteen; in seventeen there had been more than one case of fever; in thirteen, a succession of cases of fever or diarrhoea; and the approximate total number of fever cases, including diarrhoea, had amounted to eighty.

Of thirty-four houses deriving their supply of drinking-water from the water-works of the local Board of Health, a case or cases of fever had taken place in ten; in four there had been more than one case of fever; in two a succession of cases of fever or diarrhoea; and the approximate total number of fever cases, including persistent diarrhoea, did not exceed twenty-two.

"The difference," writes Dr. Seaton, "was so striking as to lead at once to the further inquiry whether, in the houses supplied by the local Board in which fever had prevailed, the inhabitants had really taken all their drinking-water from the Board's supply, or whether they might not have derived at least some share of it from their neighbors' surface wells. I found that the occupants of six of these houses—including all the four which had had more than a single case of fever—from dislike of the Board's water, or from the irregularity with which they were supplied, very frequently borrowed water from their neighbors' wells; at three of the houses, from removal of the families in which the fever case had occurred, I could get no information on this point; at the remaining house, at which there had been last autumn a case of mild typhoid in a child, the water drunk was, so far as could be ascertained, exclusively that of the local Board. Excepting these last four cases (concerning three of which no information on the subject could be got), it is established that in every case of fever that has occurred at Page-green the supply of drinking-water had been wholly or in part, and in the immense majority of cases wholly, from the surface-wells."

The wells are described as being very shallow—about seven or eight feet deep, in porous gravel. Although the water they yield is said to be generally bright and pleasant, it was shown to be liable to surface and sewage pollution, becoming at times unpleasant to the taste after heavy rains, or from matters thrown down the sinks. In one instance, some carbolic acid having been thrown down the yard-sink, it was distinctly smelt in the water pumped from the well. A chemical analysis of certain specimens of the water, made by Professor Miller, showed that it contained a very unusual amount of ammonia as well as organic matter.

"The way," observes Dr. Seaton, "in which people go on unconsciously drinking in fever and diarrhoea from such wells as these is so aptly illustrated by the occurrences at Caine's-terrace, that I must be permitted to give in brief detail the results of my inquiry at the five houses of which the terrace consists, all deriving their water from two or three surface-wells. In the one of them from which the water was taken for analysis, Mr. Gaffney has lived for three years; the family consists of four. All had diarrhoea soon after they came, and in November, 1864—January, 1865, the son and daughter had marked and severe typhoid; the son narrowly escaped dying of it. They were attended by Dr. May. In the next house, supplied by the same well as Gaffney's, in December, 1864, Mrs. Greenwood was attacked with typhoid, and was attended by Dr. Pool. In May, 1865, the present occupant, Mrs. Slark, came. She, her son, and her daughter (the only permanent inmates) had diarrhoea immediately on their coming; the lodgers whom she received have, each as they came, successively had diarrhoea, and some of them have also had low fever. Mrs. Barnes has lived in the next house for two years; they are four in family, and for the first six months of their residence they had nothing but fever and diarrhoea. Lately they have begun to take lodgers; they have had two sets, and each set has had diarrhoea. The two remaining houses are occupied by families who have only resided for seven weeks, but in each of these houses there was fever last year. Of the present occupants, the family residing in one of them, five in number, have all suffered from diarrhoea since they came. The family residing in the other, three in number, have not suffered in any way; but *this family boil first all the water which they use for drinking.* Mrs. Slark informed me that many of the neighbors who were supplied by the local Board came begging water from her well; and I found that at two houses so supplied close by—the only two houses supplied by the local Board in which there had been succession of cases of fever and diarrhoea, viz., Graham's and Bartholomew's—water had very frequently been borrowed from this well."

The story of Caine's-terrace was repeated in another row of houses.

From the history of the entire outbreak and the circumstances stated, Dr. Seaton thinks the conclusion is irresistible, "that the fever and illness at Page-green have been mainly kept up by the use of impure surface-water for drinking;" and he deemed it "a matter of the most urgent necessity that the surface-wells should at once be closed."

A local belief that the prevalence of fever was connected with the sewage-irrigation was shown to be erroneous by the fact that there was no irrigation until April, 1865, a period long subsequent to the appearance and diffusion of the disease."

Mr. Morgan, C.E., who was specially instructed by the Privy Council to investigate the drainage, sewage-irrigation, and water-supply of Page-green, states of the drainage, that all the houses, with the exception of three that have cesspools, drain into the sewers of the local Board; that where sinks are inside the dwellings they are connected with the sewers; and that no surface-drainage, either from the back premises or roads, is permitted to run into the sewers.

All the houses in Page-green, Dr. Seaton states, have water-closets communicating with sewers, except the three referred to by Mr. Morgan; but in those houses which derive their water-supply from wells, there are no means of flushing except by pails of water poured down occasionally.

ART. 9. — *On Animal Vaccination.**(Journal of Practical Medicine and Surgery, May, 1866.)*

In the discussion in the Academy of Medicine, Paris, upon M. Depaul's report on animal vaccination, an abstract of which document was given in our last volume, the views of the reporter received a severe check.

Vaccination from arm to arm is obviously traversing a critical period, which began with the doubts expressed as to its preservative virtue and with the accusation of having been instrumental, under very exceptional circumstances it is true, in propagating syphilis.

To obtain strong, unadulterated vaccine-lymph, has been the object of those who, without questioning the undoubted utility of Jenner's discovery, and unwilling to revert to inoculation of small-pox, have sought in cow-pox, or pustular grease, the means of preserving mankind from the perils of variola. On several occasions, hopes have been entertained that it might be possible to regenerate human virus by inoculation from animals, but the lymph thus obtained soon deteriorated, and it became necessary to revert to vaccination, a perfectly legitimate and highly beneficial procedure. All practitioners at present agree, M. Depaul as well as M. Bousquet, that the vaccine matter now produced is neither more nor less powerful than it was in Jenner's time, and that the condition of the human system alone is answerable for the occasional inefficacy of the lymph. The question now agitated entirely applies to the purity of the vaccine matter, and to the expediency of preserving in vaccination from arm to arm, or of exclusively using the lymph supplied by animals and especially by cows, who hitherto seem to enjoy perfect immunity from syphilis.

In order to solve the problem, it is in the first place indispensable to ascertain the precise value and power of the lymph derived from heifers at Naples and Paris, and whether it is constituted by cow-pox, traceable by uninterrupted succession to natural cow-pox, or by morbid secretions artificially obtained by the inoculation of human vaccine matter to the cow. Now, it is quite true that M. Palasciano of Naples, stated at Lyons, where he had proceeded for the purpose of describing the advantages of the method since introduced into Paris by M. Lanoix, that the lymph supplied by his cows descended in straight line from originally natural cow-pox, and it is equally true, that M. Lanoix imported from Naples a heifer vaccinated with this lymph. But previously to, and since that date, it is not certain that the natural cow-pox, having accidentally become exhausted, human vaccine matter was not inoculated to a cow, and propagated afterwards from one animal to another. At the Academy, Messrs. Bousquet and Jules Guérin openly asserted that such was the case, and M. Lanoix has not positively denied the statement. We are, therefore, justified in assuming that the pretended cow-pox which was so much talked of last summer was merely human vaccine matter inoculated to the cow, and consequently destitute of the guaranties it was supposed to possess.

We should add that M. Depaul has not persisted in his vindication of M. Lanoix's method, but has consistently instituted a search for genuine natural cow-pox: and having ascertained that at fifteen miles from Orleans a heifer, aged two years and a half, presented the characteristic pustules, he has ordered a second cow to be inoculated with the lymph supplied by the first; the experiments necessary to an impartial appreciation of the merits and superiority of animal vaccine matter will be therefore carried out with the lymph derived from this source, obviously free from all taint referable to the human subject.

ART. 10.—*Poisoning by Silk Thread.*

By M. CHEVALLIER, jun.

(Moniteur d'Hygiène et de Salubrité Publique; Journal of Practical Medicine and Surgery, June, 1866.)

The silk thread employed by seamstresses is liable to acquire poisonous properties in consequence of a fraudulent practice described as follows:—

“The value of the best quality varies from sixty to seventy francs a pound, and the material is sold wholesale by weight. For many years it has been the custom to increase the weight by steeping the silk in sugar and water, or in an infusion of gall-nuts; but this fraud not being found to yield sufficiently large profits, a patent was taken out for another plan, which consists in soaking the silk, whatever its color, in a bath of acetate of lead, and after drying the skeins, exposing them to a current of hydrosulphuric acid. The result is the deposition of a quantity of sulphuret of lead which greatly adds to the weight of the thread, and, therefore, to its mercantile value. We are acquainted with a person at the head of an extensive dressmaker's establishment who, from the use of silk thread thus prepared, was attacked as well as her workwomen with painters' colic; some of the women even lost their teeth, in consequence of their habit of biting off the ends of the thread, an operation during which they absorb a portion of the lead attached to it.

“The following is an easy method of discovering the fraud which is sometimes carried so far that some silks have been found to contain as much as 23 per cent. of their weight of sulphuret of lead: place a few threads at the upper part of a tube closed at its inferior extremity, and moisten them slightly with water containing a small amount of acetic acid or strong vinegar. When the silk is impregnated, add a few drops of a solution of iodide of potassium. If any lead be present, a golden deposit of iodide of lead will at once betray the adulteration; and the weight of the iodide formed, and that of the silk before and after the operation, drying included, affords a clue to the quantity of lead introduced to deceive the purchaser; a dangerous kind of fraud, inasmuch as the action of the poison is slow and insidious, and entails injury to the teeth, general intoxication of the system, paralysis of the intestines, and may even cause death.”

ART. 11.—*Cholera Hospitals.**(The Lancet, July 28, 1866.)*

A report on Cholera Hospitals has been drawn up by the Council of the Epidemiological Society, of unusual interest. In March, the Council, having regard to the threatened outbreak of cholera, drew up a series of queries referring (1) to the advisability or not of cholera patients being admitted into the general wards of hospitals; (2) to their admission into special wards set apart for them in hospitals; and (3) to the necessity of special hospitals for the treatment of such cases. These queries were distributed amongst the most eminent members of the profession, and a series of replies of great value have been received. Amongst those who have expressed opinions in answer to the queries may be enumerated the Presidents of the Royal College of Physicians and of the General Medical Council, the Directors-General of the Army and Navy Medical Departments, the physician to the Secretary of State for India in Council, Dr. Jenner, F. R. S., Dr. Milroy, Professors Laycock, Parkes, Maclean, Gairdner, Sir D. J. Corrigan, and numerous other distinguished men. The following is the substance of the report:—

I. There appears to be a general concurrence of opinion, expressed or implied, that under certain circumstances and conditions cholera is liable to be communicated from person to person; the liability being usually in proportion

to the crowding of many persons together, the defective ventilation of apartments, and the neglect of thorough cleanliness in respect of person or abode.

In addition to the possible risk of the extension of the disease from this source, the alarming character of the symptoms, and the necessity for unremitting attendance upon the sufferers, are calculated to produce terror in the minds of spectators, and thus strongly predispose them to be attacked during an epidemic season.

For these reasons the opinion is very generally held that it is inadvisable that cholera patients should be admitted into wards which are occupied by other sick inmates.

The experience, however, of some of the metropolitan hospitals in past epidemics shows that, due attention being paid to sanitary arrangements, cholera patients may be received, in limited numbers, into the general wards without injurious results either to the other sick or to the ordinary attendants.

No instances have been referred to, in the evidence before the Council, in the opposite direction—*vis.*, of the disease having spread to the other inmates of a ward in a well-regulated hospital.

II. With respect to the second query, the experience of the metropolitan physicians who have favored the Council with replies appears to be that, with proper precautions, cholera patients may be admitted into separate wards in general hospitals or infirmaries without undue risk of the extension of the malady to the other inmates of the institution.

This opinion is shared by all the respondents who have had experience of the disease in tropical countries.

It would have been very desirable to have been informed of the results on this point in some of the military and naval hospitals in this country and also abroad.

The precautions above referred to are these:—(a) Ample space to each patient; not less than 1500 or 2000 cubic feet. (b) Thorough ventilation of the wards at all times, both night and day. (c) Immediate disinfection and removal of the excreta, soiled linen, &c. (d) A separate staff of nurses.

III. The reply to the third query depends much on the opinion formed in respect of the two former questions. If cholera patients are not admissible into general hospitals or infirmaries under any conditions, it is obvious that some extemporized and special arrangements must be provided for the reception of the destitute when attacked.

But even when they are admitted, there are various circumstances in which it will be advisable or necessary that special hospitals should be provided, *e.g.*—(a) When general hospitals or infirmaries are at a distance from the seat of the actual or apprehended outbreak. (b) When there is a want of accommodation, with due regard to the ordinary patients, or when the accommodation is unsuitable or objectionable.

In selecting the site of special hospitals, the following points require to be attended to:—(a) Nearness, if possible, to the chief seat or seats of the outbreak. It is important that cholera patients should not have to be carried far. There is, moreover, great risk in moving patients in, or verging to, the state of collapse. (b) Airiness, and freedom from intrinsic or contiguous sources of atmospheric pollution. (c) A dry soil and raised situation are, of course, to be preferred to a low and damp one.

Amid the crowded districts of a large town, it appears preferable that several small and suitable hospitals, or "houses of recovery," should, if possible, be established in different localities, rather than one or two large hospitals for the reception of a great number of cholera patients.

The remark that the presence of an experienced staff of medical officers in general hospitals, and the existence of more complete appliances of every sort in them that is likely to be provided in extemporized special hospitals for the treatment of cholera patients, are marked advantages in favor of the former, deserve consideration.

The general conclusions of the Council are these:—

1. That it is, on the whole, inadvisable that cholera patients be admitted into the ordinary wards of general hospitals or infirmaries.

2. That cholera patients can be safely admitted into special wards in general hospitals, due precautions being taken; and therefore that it is desirable, as an important means of providing accommodation for the destitute when attacked, that the authorities of these institutions grant this valuable benefit to the public.

3. That it will be often necessary that special hospitals be provided in aid or in lieu of general hospitals and infirmaries.

In addition to these arrangements for the accommodation of the poor when attacked with cholera, the Council would recommend that places of refuge be provided for the temporary sojourn of some of the unattacked inmates of unwholesome dwellings and localities where the disease has appeared.

ART. 12.—*On Scurvy in the Merchant Navy.*

By Dr. W. DICKSON, R.N., Medical Inspector H. M. Customs.

(*Proceedings of the Epidemiological Society*, June 4, 1866.)

The author had been engaged during the last twenty months in a series of investigations instituted by the Board of Trade, with the view of ascertaining the origin of scurvy in various ships which had arrived in the port of London, and in which the cases of the malady were either so numerous or so flagrant as to demand the notice of the Government.

Three years ago the Medical Officer of the Privy Council had called attention to the discreditable fact that this most easily preventible disease was still extensively prevalent in merchant ships, and at his request Dr. Barnes drew up a very valuable report, founded on his experience in the *Dreadnought*, where examples of scurvy are always to be found, and in every degree of intensity.

The public is chiefly indebted to the officers of that excellent hospital for information on the subject, from Dr. Budd, thirty years ago, to Mr. Leach, the present Resident Physician, who has been indefatigable in exposing the abuses which, as he has gleaned from the narratives of the patients, indubitably exist, and in pointing out the means of redress. A very unsatisfactory feature in the recent history of scurvy is, that, notwithstanding the acknowledged improvement in the condition of our merchant seamen since 1854 (the date of the Shipping Act), the disease appears to have increased rather than diminished.

The number admitted, for example, to the *Dreadnought* last quarter was 39; that for the corresponding period of the three previous years being 22, 20, and 15. The admissions annually for some years have averaged about 90; those at Liverpool about 50. But these, of course, are only the more severe cases, hundreds of others not coming under professional observation, or only casually. At the Poplar Sailors' Home, for instance, it is reported that one-half of the inmates are affected in some degree, and one-twentieth are seriously afflicted.

In the scurvy-stricken ships the proportion of sick is often very large, ranging from 9 to 90 per cent. on strength. The mean ratio of 26 ships, with crews averaging 20 in number, was four cases, or 20 per cent. Out of 55 cases received from British ships into the *Dreadnought* 14 belonged to London ships, 21 to Liverpool, and 20 to other, chiefly northern, ports. Of the foreign vessels, those from Hamburg appear to be most affected. The voyages chiefly productive of scurvy are those from India and China, the duration of which varies from 90 to 150 days. The disease seldom breaks out in less than sixty days from leaving port. Any gross defect in the diet of the crew will therefore show itself unequivocally in the last days or weeks of the homeward voyage. It is at the time of rounding the Cape of Good Hope, or soon after, that scurvy generally appears, and those whose health has been weakened previously by other causes are almost invariably its first victims. Men whose constitution is tainted with syphilis, or who have suffered from climatic disease, and have perhaps been shipped direct from an hospital in some tropical seaport, begin to complain of muscular pains and extreme lassitude. The symptoms are often so obscure as to give rise to the suspicion of malingering. Mischief, too, is sometimes done

through the excusable error of the master in treating them as cases of venereal, rheumatism, and other diseases. Instances are not rare in which even the more characteristic signs of sponginess of the gums and mouth, and ecchymosis on the extremities, have been overlooked, and the patients, as well as their shipmates, have been in ignorance of the true nature of the disease until their arrival in England.

There is often no emaciation nor much outward indication of illness; yet exhaustion is so great that death sometimes occurs suddenly after slight exertion, or they have to be hoisted on board the *Dreadnought* in the last degree of prostration. There, recovery is generally speedy and satisfactory; yet there is reason to believe that in many cases, as pointed out by Dr. Barnes, irretrievable damage is inflicted on the constitution, and the barrier is weakened against the invasion of other diseases. Phthisis and syphilis, in particular, appear to acquire increased intensity. The latter, indeed, is as much the bane of the merchant navy as scurvy is. Both cachexies react injuriously on each other. Conjoined with intemperance, hardship, and fatigue, they shorten the lives of individuals to an incalculable degree, and, by the disgust and terror they inspire, threaten almost to extinguish a most useful class of men, and to paralyze an arm which has been, both in peace and war, of the utmost value to the country.

In all the vessels inspected the outbreak of scurvy could be directly traced to privation of vegetable food, or of its recognized substitute, good lime or lemon juice. In a few instances the provisions were deficient in quality and quantity, but as a rule they were unexceptionable. The same may be said of the men's quarters, and other hygienic conditions of the ships. Nearly all the men examined cheerfully acknowledged that when sick, they had been treated with humanity and attention. But in no case was a wholesome *mixed* dietary used, such as is enjoined by law for our emigrants, convicts, soldiers, and seamen of the Royal Navy. The lime-juice, which is an undoubted preventive, during the time of an ordinary voyage, if issued as the Act requires, was invariably found to be either of bad quality, or served out irregularly, or neglected to be taken by the men themselves. In some cases it was not the juice of limes, but a spurious compound—a solution of citric acid flavored with oil of lemons, which is much affected by shipowners and masters as less costly and less liable to spoil than the genuine juice. Experience has amply shown that, however plausible on chemical grounds this may be, it is, like all other medicated substitutes, comparatively valueless as an anti-scorbutic. More often, the lime-juice, originally good, had deteriorated from being kept carelessly in a large cask, and become either unfit for use or had lost by decomposition all its prophylactic virtues. An unaccountable prejudice prevents many merchant seamen from using even good lime-juice, and its use seems in all cases to be left too much to their own discretion. The officers rarely take it, yet seldom suffer from scurvy, although their food in the smaller ships, which seldom carry passengers, differs but little from that of the crew. Yet that slight difference is essential; a few preserves, or vegetables that will keep, and the occasional use of beer or wine, prove sufficient to insure their safety. Although the young and feeble are the first affected in scurvy ships, the disease in time spreads in some degree to all, and by the time they arrive in the cold tempestuous latitudes of the Bay of Biscay and the English Channel, the crew is often so thinned by disease as to endanger the safety of the vessel. Even when the malady has distinctly shown itself, the island of St. Helena is in many cases passed by without touching for the supplies which would at once cure it and prevent its extension. Surely this is culpable neglect. It is sometimes explained by the stringent orders of the owners prohibiting all delay. Many scorbutic invalids are left, however, at St. Helena. Mr. Leach informs us that about thirty per annum are admitted into the island hospital, whose average treatment lasts thirty-five days for each, to say nothing of the very numerous cases of outpatients, in whom the symptoms are milder.

Details were entered into of mismanagement and improvidence that led directly to the disease in the vessels inspected. In some instances the masters seemed most to blame. In most, however, the chief responsibility rests with

the owners, who practise and inculcate an ill-judged parsimony, which is attended, as we have seen, with the most pernicious results. It is well known that many shipowners pay great attention to the health and comfort of their crews, and that scurvy among them is as obsolete and unknown as in her Majesty's ships.

In the interest of a helpless, friendless class of the community, more isolated than any other, and including thousands of foreigners, who are attracted by the high rate of wages to our mercantile marine, it would seem to be the province of the State to interfere, and by more efficient legislation to lessen the evils that now so notoriously exist. Much was done for the seamen by the Act of 1854, but as germane to this matter it is defective in some essential points,—1st, in not positively enjoining a *mixed* scheme of diet, of which fresh vegetables, or the best preserved substitutes for them, should form a part;¹ 2d, in not insisting that lime-juice, in the form of lemonade, shall be served out *every day* on which fresh vegetables are not actually issued; and 3d, in not providing that the lime-juice shall be ascertained to be of good quality, and supplied in such a form as to be reliable for at least two years as an anti-scorbutic. Regulations on the 1st and 2d heads are easy and obvious; that on the 3d is quite as essential.

Some interesting details were given as to the varieties of lime-juice and its analysis, and samples were shown of the nauseous, worthless stuff that is found under that name in scurvy-stricken ships. Even the best lime-juice should be mixed with 10 per cent. of spirit, and packed in sealed vessels not exceeding *half a gallon*. It should be given even with fresh meat, if, as sometimes happens, no fresh vegetables are procurable; and in the latter part of the homeward voyage the allowance should be increased to 1 oz. per diem. All the substitutes for it now in use—citric acid, salts of potass, &c.—should be prohibited. For securing a good article, *ab origine*, various plans have been suggested, among others, certificates from the vendors, warranting its purity and non-liability to decomposition. Respectable dealers receiving a fair price, would not decline a responsibility of this kind, and adulteration would be checked; or the lime-juice might be supplied to ships only from bond, after having been tested there, and mixed with the proper amount of spirit. Perhaps the most efficient check, would be an official inspection, not only of lime-juice, but of the other provisions, more especially the anti-scorbutics. The Board of Trade, recognizing the importance of such preventive inspection, suggested the appointment of a medical officer for the purpose at nine of the chief ports. Control in such questions is invested in the Local Marine Boards, but, with the exception of London and Hull, the proposal was emphatically negated by those boards as “unnecessary, impracticable, and interfering injuriously with the business of the port.” It is worthy of note that it is from some of those very ports that the most flagrant cases of scurvy ships proceed, and where the adulteration and counterfeiting of lime-juice is most practised.

In a vessel from Sunderland, not long ago, two deaths from scurvy occurred, and four others of the crew were long in the *Dreadnought*, suffering from the cruellest form of that disease. The lime-juice supplied to that ship was a solution of citric acid.

Other instances of the same kind were adduced from Liverpool, Glasgow, and other ports, in which the result was not fatal, but many of the crews endured great misery from scurvy in its most intense form.

Some observations were made on the medical treatment of the sufferers, particulars of which are required by law to be recorded in the official log-book. Where the disease was recognized by the captain, the remedies given were judicious, but, in the absence of the necessary articles of food, were of little avail. Great allowance is to be made for those officers, who are often placed in very trying circumstances. They have too frequently reckless and insubordinate crews to govern, and have to do their best amid difficulties which can be realized in no other situation.

It seems desirable that some knowledge of the elements of hygiene should

¹ It might also include, with great advantage, an occasional ration of beer or light wine, which are anti-scorbutics of great value.

be acquired by young officers of the mercantile marine, and that they should pass a simple examination on the subject of preserving the health of the men they are destined to command. Erroneous ideas that now prevail on dietetics and other matters would thus be corrected. With seamen well cared for and contented, discipline and right feeling could be more easily maintained. Signs of decay in the mercantile marine are said to be so evident that its present depressed condition and the causes that have led to it are likely to engage the immediate attention of Parliament.

Much of the physical suffering of seamen may, doubtless, be alleviated if their diet, which is much the same kind as it was a century ago, were improved as indicated above. Various other points of hygiene in the merchant navy were discussed at length, and allusion was made to the recent Contagious Diseases Act to our great commercial seaports, where it is even more imperatively called for than in garrisons or naval stations.

Much benefit also was anticipated to the men, the masters, and owners of the small-class ships, which, as a rule, have no medical officers, if the crew were systematically submitted to a medical examination at the time of being entered for the voyage.

(B.) CONCERNING ACUTE DISEASES.

ART. 13.—*On the Practical Value of Accurate Daily Observations of the Temperature of the Body in Acute Disease.*

By Dr. THOMAS ARMETIRDING COMPTON.

(*Dublin Quarterly Journal of Medicine*, August, 1866.)

The general conclusions which Dr. Compton has come to have been arrived at after a careful study of some 125 cases taken by himself during the last two years, at St. Bartholomew's Hospital, and also of some seventy-five other cases taken in the same hospital, during the same period, by Dr. Warter.

The total number of cases in which the temperature and general symptoms have been watched and recorded daily throughout their course, amounts to 200, of which sixty are typhus, thirty typhoid, twenty pneumonia, fifteen scarlet fever, and the remaining seventy-five comprise cases of febricula, acute rheumatism, erysipelas, cholera, acute tuberculosis, &c. The total number of observations in these cases, and in others in which only one temperature has been recorded by Dr. Warter or Dr. Compton, probably exceeds 5000. Dr. Compton states what he considers to be approximately the average normal temperature of an axilla in a healthy adult. A temperature of 98°·4 Fah. is the point generally settled upon by the majority of authorities on the subject; but this, Dr. Compton believes to be too high, as although he has not at present taken a sufficiently large number to decide the question to his own satisfaction, yet he can state that he has very rarely found such a temperature present in a healthy adult under normal conditions. "I have," he says, "every reason to think such a temperature to be nearly up to the maximum, consistent with health, and to be only met with occasionally, just as one comes across, now and then, a healthy adult with a temperature below 96° Fah. I consider the healthy range to be somewhere between 95°·5 and 98°·5 Fah., the most common temperature met with, being probably 96°·4 Fah., i. e., one degree less than the temperature hitherto most generally received as the normal one."

Dr. Compton seeks to establish the following propositions from his observations:—

1st. That a continued daily temperature of 99° Fah., and upwards, indicates an unhealthy condition, and occurs in every case of acute disease.

2d. That any one observation of a very high temperature (such as 105° Fah.), in any case in which the general symptoms do not appear of any particular severity, should lead to a very attentive re-examination, and suggest a very careful watching, especially if occurring in a non-diagnosed case; such a temperature being present only in severe forms of any disease.

3d. That the thermometer is of great use, as a means of diagnosis in those cases, which frequently present themselves, of general *malaise*, often accompanied by a history of rigors, loss of sleep, &c.; such symptoms being due either to the commencement of one of the specific fevers, or merely to some gastric or uterine disturbance of a temporary character.

4th. That the temperature in every disease has a tendency to run a peculiar course, and has a certain range of altitude, a knowledge of which course and range is of great value as an assistance to us in diagnosis and prognosis.

5th. From the last proposition it follows, that the same altitude of the thermometer attained at one period of any disease is not of the same importance as the same height reached at another time in the same disease.

Thus, in typhoid fever, a temperature which has been rising for two or three days, reaches perhaps 104° Fah. between the seventh and fourteenth days, without causing any anxiety; whereas should the same phenomenon occur about the twenty-eighth day, a fatal termination may probably be expected.

And again, the actual altitude attained on a certain day in one disease is not of the same importance to our prognosis as the same height reached on the same day in another disease. Thus, a temperature of 104° Fah. in erysipelas is very common during the first week, and need not give rise to any alarm; but should such occur at the same date in acute rheumatism, Dr. Compton would consider it of much more importance.

6th. That although, in all diseases, a high range of temperature generally indicates a severe case, with a slow convalescence, and a low range usually occurs in a mild case, and is followed by a rapid convalescence; yet there is no actual temperature in any disease which necessarily foretells a fatal termination.

7th. That in the majority of cases a rise of temperature is contemporary with a rise of pulse, although such is often not a proportional one, and may not take place at all unless the alteration in temperature be as much as 1½° or 2° Fahr.

8th. That where the temperature and pulse together do not coincide with the general symptoms, the two former may be generally relied on as to the actual state.

9th. That where the temperature and general symptoms agree together, but do not coincide with the state of the pulse, the two former may generally be relied on as to the actual state.

10th. That in those cases in which the pulse and general symptoms remain the same, a moderate fall of temperature on one occasion is not to be relied on; but should such a fall continue in a moderate and gradual manner, for some days, and at such a period when a fall was to have been expected, the temperature may then be depended upon. Severe cases of typhus, towards their close, often give examples of this sort.

11th. That in those cases in which the pulse and general symptoms continue the same, being the one frequent and the other severe, a continuous rise of temperature for some days, occurring at a period of disease at which some improvement might generally be expected, is usually the precursor of a fatal termination.

12th. That although it is possible that the state of the temperature alone in acute disease may, perhaps, hereafter prove to be the one safest symptom to rely upon if taken by itself (and I believe it is at present, at least, equal to the state of the pulse, and of greater value than this certainly, if only its frequency be taken into account), yet the temperature must be considered merely as an aid, and all other symptoms must be carefully examined into, as it is on comparison with these that its greatest value is always to be found.

ART. 14.—*On the Utility of Hyposulphites in the Treatment of Diphtheria.*

By Dr. HAYDEN, Physician to the Mater Misericordia Hospital, Dublin.

(*Dublin Quarterly Journal of Medicine*, August, 1866.)

Dr. Hayden relates a series of cases of diphtheria to illustrate the remedial action of the hyposulphites, and in the hope that others may give these agents a more extended trial in the treatment of diphtheria. He discusses the general pathology of the disease only so far as it seems necessary in order to justify what may be called specific treatment. Dr. Jenner declares that "diphtheria is a general disease—runs a quick and definite course, and has a specific cause." In this opinion Dr. Hayden entirely concurs; and, indeed, he says, it will be difficult to controvert it, if due weight be given to the epidemic character of diphtheria—the great debility which accompanies, and frequently succeeds it—the frequent occurrence of albuminuria, and of specific exudation upon abraded surfaces, and lastly, the remarkable lesions of motion and sensation which are occasionally met with amongst the sequelæ of the disease.

"If diphtheria, then," Dr. Hayden continues, "be a general disease, manifesting itself by constitutional as well as by local symptoms, it follows that general treatment is indicated; and further, if we admit that it is a specific disease, we are, as it seems to me, warranted in searching for a specific remedy. The remarkable experiments of Dr. Polli, of Milan, who has succeeded in arresting putrefactive fermentation by means of the hyposulphites of the earths and alkalis, encourage the hope that zymotic or catalytic diseases may be controlled by the same agents administered medicinally. It is true that both Bretonneau and Trousseau declare they have no confidence in the general treatment of diphtheria; but medicine is a progressive science, and we should not regard as final the adjudication of even the most eminent of our brethren upon a question still open to investigation.

"In *The Dublin Quarterly Journal of Medicine* for August, 1864, Dr. De Ricci has published some cases of septicemia successfully treated with bisulphite of soda. Encouraged by these results, as well as by several cases of diphtheria which recovered under the hyposulphite treatment, reported from time to time in the journals, I determined to give these agents a trial; and although some of my cases were examples of the milder form of the disease, or the 'common membranous angina' of Bretonneau, others were sufficiently serious to warrant an unfavorable prognosis. Death occurred only in one instance amongst the eight cases; in that instance alone the hyposulphite was not given; the patient was seventy years of age, and his case was complicated with congestion of both lungs.

"I do not mean to assert that in the hyposulphites we have got an agent capable of neutralizing or decomposing the toxemic principle of diphtheria, whatever that may be; but of their curative properties in this disease I think we have sufficient evidence to warrant us in giving them a more extended trial. The only inconvenience which I have experienced in the use of the hyposulphite of soda was the occasional occurrence of diarrhœa, but this was readily corrected by the addition of a little syrup of poppies, or other mild astringent."

ART. 15.—*On the Treatment of Rheumatic Fever.*

By J. BIRKBECK NEVINS, M.D. Lond., Liverpool.

(British Medical Journal, September 8, 1866.)

Dr. Nevins, in reference to a growing tendency to consider that it is a matter of indifference whether anything at all is done in rheumatic fever, except to keep the patient quiet in bed, and supply moderate nourishment, submits a plan of treatment which he has long practised, and which it appears to him has led to the following results:—1. Speedy relief of the patient's most urgent symptoms; 2. Diminution of the general duration of the case; and 3. Restoration of strength, with less tendency to heart-complications or relapses than usual.

The remedies to which he attaches importance are:—

1. The vapor-bath, and subsequent cold douche; and
2. The combined use of quinine and iodine.

In a case related, the bath was given in bed, for the patient could neither turn in bed nor move his limbs; "and," writes Dr. Nevins, "it will generally be necessary to give it in bed, in the first instance, in any case deserving the name of rheumatic fever; and it is so easily administered, that no difficulty can arise to prevent its employment in every case.

"Two large pieces of coarse flannel (common scouring cloths answer the purpose admirably)," he continues, "are to be soaked in common vinegar; ¹ about a pint being necessary for each cloth. Two common bricks are then to be heated nearly red-hot in the fire, folded up in these flannels, and placed on two plates. The patient being stripped, one plate is to be put a little distance from one knee, and the other a little distance from the opposite shoulder, and the patient is to be covered over with the bed-clothes. In a few minutes, he is surrounded by a most refreshing steam-bath, which produces a warm, agreeable perspiration, that may be kept up for twenty minutes or longer, if the bricks retain their heat sufficiently.

"As soon as it is decided to remove them, the patient, still in bed, is to be very rapidly mopped all over with towels wrung out of cold water, then immediately wiped dry with dry towels, supplied with a warm shirt or flannel garment, and covered with a fresh dry sheet, &c., or with blankets alone, as may be most agreeable to him.

"The effects of this bath are a speedy relief of the acute pain, and frequently easy sleep for a time; an abatement of the offensive and distressing acid sweats; and a general state of greater comfort.

"The cold water application immediately on the removal of the hot vapor is very important; as it prevents the continuance of an enfeebling perspiration after the hot bath.

"The manner of removing the patient's bed garment is a point of importance in cases of such painful helplessness as rheumatic fever; and it is accomplished without pain to the patient or difficulty to the nurse by an extremely simple contrivance. The clothes must be torn down the back from top to bottom; and when this is done they can be removed and replaced as easily as a child's pinafore, without even lifting a limb of the patient or disturbing him in bed. By this means, fresh, clean, dry clothing can be applied without difficulty once or twice a day, according to the amount of sweating; and the sufferer is relieved from the discomfort of his damp, offensive garments.

"This bath may be repeated twice a week; and during seventeen years that I have been in the habit of adopting it, I have scarcely ever had to use it a third time in bed; the patient, after the second bath, being almost invariably able to sit up and have the third in a chair.

"When he is able to sit up, a steam-bath can be given with great ease by

¹ For many years I soaked the flannels in simple water; but the vinegar is so much more fragrant and agreeable to the patient, that I have always used it for the last few years.

putting a bucket of boiling water under a chair, the seat of which is sufficiently protected to prevent the patient from being scalded, whilst he is sitting upon it surrounded by blankets; and, by putting a red-hot brick into the water in the course of ten minutes, the steam is kept up, as by this time it generally begins to abate from the original boiling water.

"A jug of cold water may be poured over the patient when the blankets are removed, or he may be wiped by cold wet towels, as is most agreeable to his own fears or feelings, and he must then be clothed and sit up for a few hours.

"The second part of the treatment upon which stress is laid, is the combination of moderate, *i. e.*, two-grain doses of quinine with five-grain doses of iodide of potassium from the first. The theoretical grounds on which quinine was first proposed have been already mentioned; and the general experience of the profession will suggest the explanation of the probable benefit to be looked for from the addition of the iodine."

ART. 16.—*On the Nature of the Poison of Contagious Diseases.*

By Dr. LIONEL S. BEALE, F.R.S.

(*Medical Times and Gazette*, September 22, 1866.)

In his report to the Royal Commission on the Cattle Plague, published in detail in the third report of the Commissioners, Dr. Beale has

(1.) Advanced facts and arguments which seem to him opposed to the view that the contagious matter consists either of insects, of animalcules, or any kind of vegetable organism.

(2.) He thinks that it consists of living matter formed in the organism of man or animals—the particles being exceedingly minute, and capable of retaining their vitality for a long time, and under various conditions, although separated from the body.

(3.) That these living particles bear somewhat the same relation to the germinal matter of normal cells that pus corpuscles or cancer cells do, and therefore that the contagious germs have been derived by continuous descent from the normal germinal matter of the organism. They may have descended from a lymph or white blood corpuscle, or from the germinal matter of an epithelial cell.

(4.) If this be so, the living contagious particle is not, Dr. Beale holds, of the nature of a *parasite*, nor can it be regarded zoologically as a species, nor has it originated in the external world and grafted itself upon man, but it has originated in his organism, and is, indeed, degraded living matter descended from what was once normal living matter of the body itself.

ART. 17.—*On Mixed Types of Fever.*

By Dr. HENRY KENNEDY, Physician to the Cork-street Hospital
Dublin.

(*London Medical Press and Circular*, June 20, 1866.)

Dr. Kennedy discusses the subject of mixed types of fever, in relation to the question of the identity or non-identity of the typhus and typhoid poisons. He believes that the typhus poison is capable of engendering the type of fever known as typhoid or enteric, and that this particular type must be due to some other cause rather than a specific poison. On the other hand, he holds that the two types can, in the great majority of instances, be distinguished the one from the other. He records a series of fourteen cases of "mixed types" of fever, on which he offers the following observations:—

"Such is the series of cases which I wish to bring under notice, when added to those already given in the former papers—and, did time permit, I could

have given other similar cases—they appear to me to afford the strongest proof the question is capable of eliciting, that we must consider the two types of fever known as typhus and enteric as the result of but one poison. If this be not the correct view to take of the matter, I confess myself quite unable to explain the cases of the mixed types detailed in this paper; for it must have been observed, as each was given, how the symptoms of each type of fever were mixed up together. As there is not time, however, to go over each symptom in detail, I shall notice but one, on which most, if not all, who hold different views from my own, seemed to have placed the greatest weight of their argument. I mean the spots said to be characteristic of enteric fever. On this point, I think I may say with certainty that these lenticular red spots, and few in number, have not the value which has been given them; for I have seen them now in many instances, and some have been given where, while they existed, there was not another symptom of the ileum being engaged—at least I could make out no evidence of such a lesion, though looking specially for it. Here, then, were cases where the particular spots existed, but not the lesion of which they are said to be diagnostic. But, further still, I have given cases where, with the enteric spots, there was also a typhus rash. As bearing on this particular point, I would just recall the case of the man Develin, where the enteric spots first appeared, then the typhus rash, and as this latter disappeared the enteric spots were again visible. If this be not a case in point, I know not what is; and I shall be glad to hear some explanation of this from any gentleman who differs from me. As regards the spots of typhus fever generally, I have got an impression that a good deal of misconception exists. I have heard some speak of the bright and the dark spots, as if there were a difference between them. On this point I can state with certainty that it is very common to see the two on the same individual, and at the same time. This may be seen on the body itself, but it is more common to have them dark on the body and a bright red on the arms. Again, the spots of enteric fever are described as recurring again and again, and this is quite true. But it does not seem to be so generally known that the same may be seen in typhus. For I have witnessed cases where a distinct second crop of eruption appeared; nor is the observation original, as I have read of it in one of the olden authors, though I cannot at this moment give his name. So also of the statement that petechiæ are never seen on the face. This is positively incorrect, as I have noted several cases where they were quite distinct. But these points are only mentioned here as bearing indirectly on the point under discussion. Still, I think they are enough to show that any positive statements about the rash in fever must be received with caution, as the variety is truly very great.”

ART. 18.—A Case in which Typhoid Fever and Measles were coincident.

By W. B. KESTEVEN, F.R.C.S.

(*The Lancet*, June 9, 1866.)

On the 14th, 15th, and 16th of last December, a girl, aged fourteen years, was ill with measles. A few days afterwards another girl, aged eleven years, was indisposed, and suffering from symptoms of fever of the enteric type. On or about the 30th of December, a few of the rose-colored spots characteristic of typhoid fever made their appearance and increased in number, but did not exceed thirty or forty over the whole of the trunk. On the 8th of January, two younger children presented the ordinary symptoms and eruption of measles, and passed through the disease in the usual course.

On the 8th of January Dr. Kesteven was considerably puzzled by finding his typhoid patient exhibit the general symptoms and special rash of measles in addition to that of the enteric fever. He began to doubt the correctness of his diagnosis as to either the one or the other of the two diseases, and was, therefore,

only too glad to avail himself of the superior judgment and great experience of Dr. Jenner, who, after careful investigation into the history and condition of the patient, confirmed his opinion that he had here a case in which these two eruptive fevers were coincident.

ART. 19.—*A Suggestion for the Analysis of Infectious Essences.*

By ARTHUR LEARED, M.D., M.R.I.A., Senior Physician to the Great Northern Hospital.

(*The Lancet*, August 18, 1866.)

"However opinions differ in particular instances," writes Dr. Leared, "it is undeniable that certain diseases are propagated by infection. Effluvia capable of producing disease, such as malarious poison, probably products of decomposing organic matters, are given off by the earth. In neither instance has any one yet demonstrated the existence of the essences concerned, because they elude the senses, and no means of analyzing them has been hitherto discovered. A conviction of their existence is only arrived at from observation of their effects. Nevertheless the demonstration would in many respects be of great importance. Thus, in the case of cholera, the discovery of such an essence would settle the question of its infectious nature—still a debatable point. And supposing any infectious emanation to have been demonstrated in any given disease, or the existence of malarious poison in any given place, it could then be ascertained with scientific accuracy what amount of atmospheric dilution would be necessary to render it innocuous. It is known that, within certain limits, fever cases may be introduced almost with impunity in a ward amongst other cases. But were we possessed of an instrument by means of which the safe point of atmospheric dilution could be determined, as the temperature is ascertained by the thermometer, it would surely be an important gain. Now, unless my anticipations deceive me, we do possess such an instrument, although its adaptation to the present purpose is entirely novel.

"No one who has witnessed the beautiful experiments of Prof. Tyndall on the radiation of heat could fail to be struck by the unexpected nature of the results, as well as by their undeviating uniformity under given conditions. He has demonstrated that the power of intercepting the waves of heat possessed by the molecules of various gases and odorous emanations differs vastly in degree. Thus, taking the quantity intercepted by atmospheric air as unity, the relative absorption of nitrous oxide is 1860, and of sulphurous acid 6480; of the odor of lavender 60, and of aniseed 372. Professor Tyndall has even shown that radiant heat may be 'employed as a means of determining practically the amount of carbonic acid expired from the lungs.' This mode of quantitative analysis is evidently capable of much extension.

"Now if such attenuated matter as that concerned in the odors given off from certain bodies is so capable of demonstration by this new method, it is almost certain that the emanations which are concerned in propagating disease will also yield appreciable results.

"The possible great importance of this new mode of research induces me to bring the matter before the profession, even in the form of a suggestion. The opportunity of examining air obtained from close contact with the body, and also of the breath in cholera and in the cattle plague, is now presented, and should not be allowed to pass by. A description of the ingenious instrument of Professor Tyndall would take up too much space. It will suffice to say that, although delicate and requiring skilful treatment, its management presents no insurmountable difficulties; and I have it from Professor Tyndall himself that my proposed investigations promise well."

ART. 20.—*On the Phenomena of Asphyxia in Cholera.*

By M. JULES BESNIER.

(Archives Générales de Médecine, September, 1866.)

M. Besnier has subjected the question of the production of asphyxia in cholera to a careful examination during the late epidemic in Paris. Of the pathological condition of the pulmonary organs he states, as the result of his observations, that the lungs had shrunk but slightly, sometimes not at all. The superior lobes were notably emphysematous, little crepitant, and often contained but a small amount of blood. But the inferior lobes always presented upon their exterior surface a more or less intense reddish discoloration, sometimes violet. When cut, a considerable quantity of black fluid blood ran out, which reddened slowly on exposure to the air. In some cases this congestion was so great as to have produced an apoplexy by infiltration, and even to have led to hepatization of the free borders of these organs. This condition of the lungs denotes, says M. Besnier, more or less intense congestion, and it differs especially from that which is observed in ordinary cases.

The trachea and bronchi, with their divisions, exhibit lesions not less remarkable.

Throughout the entire extent of these organs M. Besnier has found upon the bronchial mucous membrane a deposit of a reddish, viscous matter, forming a kind of jelly on the surface. Sometimes half transparent and of a carrot-red, at other times it was slightly yellowish, and at some points grayish. The quantity was variable: it often formed a layer sufficiently thick to block markedly the bronchial tubes. It was with difficulty detached by a very strong current of water. This matter was found more or less uniformly spread throughout the ramifications of the bronchi, but it seemed to be more abundant in the remoter divisions of the tubes, doubtless from their smaller calibre. In many cases, before opening the bronchia, foreseeing, from previous autopsies and the symptoms observed, the presence of this deposit upon the mucous surface, M. Besnier has insufflated the lungs. He has thus caused an augmentation of the volume of the organs, but rarely to the extent obtained by insufflation where the deposit was absent. A microscopic examination of this viscous matter, made by M. V. Limoine (de Reims), gave the following results. There was a considerable quantity of cells, some narrow and elongated, others larger and irregular, and both kinds provided with vibratile cilia at one of their extremities. Each cell had a distinct nucleus in the midst of minute granules, and the nucleus was sometimes voluminous and filled with granules. Mingled with the preceding cells were other cells of an irregular or rounded form, without vibratile cilia, and in which the nucleus was sometimes well defined, at others replaced by granules. Lastly, between these different cells were found numerous granules analogous to those which filled the cells and the nuclei. The cells were evidently the epithelial cells of the bronchial mucous membrane, which, rare in a normal state, had become very abundant and voluminous. Some were in process of formation; others were completely developed; others, again, were more or less disorganized, the vibratile cilia having been cast off, and the granular contents discharged by the rupture of the walls; but they still, for the most part, maintained the characters assigned to pus.

Below the epithelial deposit described, the bronchial mucous membrane presented an intense uniform redness; in some places here and there it was slightly softened. Upon the red surface, the longitudinal and transverse striæ of the fibrous tissue were clearly distinguished by their grayish color. M. Besnier has not observed in any case the glandulous eruption mentioned by some authors.

The lesions of the pulmonary organs thus described present some variations. They were very marked when the asphyxia had been *rapid*; but when the asphyxia had been *slow* and *progressive*, the pulmonary congestion was slight, and the epithelial deposit appeared to M. Besnier to be more abundant, and to be accompanied by an emphysematous condition of the lungs, more marked and more extensive than in the rapid cases.

From the lesions observed, M. Besnier contends that the asphyxia of cholera arises from the obstacle opposed to the entry of the air into the pulmonary vesicles; and he sets aside, as insufficient, the hypotheses that the asphyxia is due to a special alteration of the blood, which prevents its arterialization, or to the non-penetration of this liquid into the pulmonary capillaries. He supports his opinion by many cogent arguments, especially insisting upon the fact that the state of the mucous membrane he describes is peculiar, so far as his observation of the morbid pathology of cholera extends, to those cases in which asphyxia is a predominant symptom. This phase of the disease is not to be confounded with the asphyxia which occurs at the termination of the algide period. The latter form of asphyxia is but of secondary importance as compared with other morbid phenomena, and is of short duration.

ART. 21.—*On the Detachment of the Intestinal Epithelium in Cholera.*

By DR. LIONEL S. BEALE, F.R.S.

(*Medical Times and Gazette*, August 18, 1866.)

On this question Dr. Beale writes:—

"In almost all the cases of cholera I have yet examined there is evidence of chronic structural change in the *tissues* of the intestines, and I think we shall be led to conclude that in most of the cholera victims important morbid alterations have been going on for months, and in some instances for years, before death. In some cases it is probable that, had the individual escaped cholera, he must have succumbed to some other malady within a short period of time. The columnar epithelial cells often exhibit evidence of chronic change; they seem to be stunted, and in many instances the nuclei are much smaller than in health. In the intervals between their attached extremities one fails to find those smaller and younger cells which in the healthy state gradually grow up to take the place of those cells which are removed and give origin to new cells, which in their turn become developed. So also it is to be observed that the masses of germinal matter so numerous near the surface of the healthy villus are almost absent in many of these cases of cholera. And there are other and very striking changes in the structure of the affected villi which I shall describe fully in other communications.

"Cholera seems to be so constantly associated with the removal of columnar epithelium from the villi, that we have been led to look upon this as one of the *essential* phenomena of the disease. Although there may be no actual diarrhoea, this epithelium is found in quantity in the intestine after death. It may be said that this removal of epithelium occurs immediately after or only just before death, but the great number of columnar epithelial cells and entire sheaths of the villi so frequently found in the rice-water evacuation, giving to it its peculiar character, proves that such a notion is not tenable. Can cholera exist without the villi being denuded of their epithelium?—is a question which, as far as I know, has not yet been answered, but which must be answered before we can form a correct notion of the nature of this most wonderful disease. I do not think there is any other morbid condition in which this striking change is observed—at any rate, to the extent or with the frequency it is met with in cholera. It seems, however, likely, that where those changes in the blood occur very quickly indeed, so as to cause death by sudden stagnation of the blood in the capillaries of important organs, there might not be time even for the removal of the epithelium from the villi, just as we may have death from small-pox or scarlatina without any eruption.

"With reference to the denudation of the villi, it must be borne in mind that the throwing off of epithelium is not confined to the villi of the intestine, or to that of the intestinal mucous membrane generally. The process affects the mucous membrane of the gall-bladder and larger gall-ducts; that of the bladder, ureters, and pelvis of the kidneys, as well as that of the Fallopian tubes, uterus, and vagina. In short, there seems a tendency to the removal of epithe-

lium from the surface of all the soft, moist, mucous membranes; not, it must be remembered, of the epithelium which is specially concerned in *elimination*, but rather of that which lines the *ducts* of glands and cavities which may be included in the category of the ductal portion of the different secreting glands.

"On the other hand, there is no evidence of the increased formation or more rapid removal of the secreting epithelium in the various glandular organs. The follicles of the mucous membrane of the stomach and intestine, those of the salivary glands and pancreas, the tubes of the liver, kidney, and other glands, still retain their epithelium; nor have I been able to demonstrate in these varieties of glandular epithelium any appearances peculiar to cholera. Indeed, so far as I have yet been able to observe, it would be extremely difficult to distinguish many secreting cells taken from the bodies of cholera victims from perfectly healthy cells."

ART. 22.—*Instructions of the College of Physicians for the Treatment of Cholera.*

The Lords of Her Majesty's Privy Council having by their medical officer, Mr. Simon, addressed a letter to the College of Physicians relating to the expediency of issuing instructions to captains of merchant vessels "how they should act when proper medical attendance cannot be procured, so as to provide for the health of their crews against attacks of cholera," the following is the substance of the reply¹ forwarded by the College:—

"Their Lordships request to be informed 'whether, in the opinion of the College, any, and if so, what suggestions might be issued as representing the present state of medical knowledge and experience with regard to the drugs which should be given, or other treatment which should be adopted in attacks of cholera, and especially in the beginning of the disease, when proper medical attendance cannot be procured. Their Lordships, at the same time, submit to the College a copy of the instructions issued on previous occasions.

"With reference to that part of the instructions on which their Lordships particularly request the opinion of the College—viz., that which relates (1) to the necessity of avoiding purgative medicines during the prevalence of cholera, and (2) the measures to be adopted when cholera appears on board ship—the Committee think—

"1. That when opening medicine is required, the mildest should be selected, as castor-oil or rhubarb. Glauber's salts and Epsom salts are dangerous. The common belief that prolonged costiveness should not be interfered with during the prevalence of cholera is erroneous.

"2. That the master should ascertain by inquiry, morning and evening, whether any of the crew are laboring under diarrhoea, and if so, the following recommendations are subjoined for his guidance:—

"3. That if a man be attacked with diarrhoea he should, whenever it is possible, be sent to bed and kept warm, and some aromatic and astringent medicine, containing a small quantity of opium, should be given to him at once, and should be repeated every hour or two, according to the severity of the purging.

"It is suggested that ten grains of the aromatic powder of chalk and opium (of the *British Pharmacopœia*) should be so given in half a glass of peppermint water or weak brandy-and-water. Should this medicine not be at hand, five measured drops of laudanum may be substituted for each dose of the powder.

"Large doses of opium or of ardent spirits should be avoided.

"If the diarrhoea should result from bad or obviously indigestible food, or if the discharges are unnaturally offensive and attended with griping pain, it

¹ The reply adopted by the College was drawn up by a committee consisting of the following gentlemen:—Dr. Gull, Dr. George Johnson, Dr. Jenner, Dr. Milroy, Dr. Parkes, and Dr. J. Burdon Sanderson.

would be desirable to give a dose of either of the gentle laxatives above named before administering the opiates.

"The diet should consist mainly of beef-tea or broth, gruel, or rice.

"If the discharges become colorless and watery (the purging being of the kind commonly called 'rice-water purging'), and be accompanied with vomiting and coldness, the opiates should no longer be persisted in, and spirituous liquors should be avoided. The patient should be strictly kept in the recumbent position; he should be allowed to drink water freely, and should be abundantly supplied with fresh air. Warm applications should be used to the feet and legs, and a mustard poultice should be applied to the pit of the stomach. Cramps may be treated by rubbing the affected parts with the warm hand.

"In all cases, medical advice, when obtainable, should be obtained as soon as possible."

ART. 23. — *Rules for the Treatment of Epidemic Diarrhœa and Cholera.*

By GEORGE JOHNSON, M.D., F.R.C.P., Physician to King's College Hospital; Professor of Medicine in King's College, &c.

(*British Medical Journal*, July 21, 1866.)

Dr. G. Johnson sums up his matured views of the treatment of epidemic diarrhœa and cholera as follows:—

"It may be stated as a general proposition, that the immediate cause of diarrhœa or looseness of the bowels is the presence of offending materials in the alimentary canal. These offending materials are of various kinds in different classes of cases. In one case, unwholesome and undigested food is the exciting cause of the purging; in another case, a large and unnatural accumulation of the feculent contents of the bowel; while, in another class of cases, offending materials are poured from the blood into the bowel, in consequence of the action of a morbid poison upon some of the ingredients of the blood. To this last class of cases belongs what is called *choleraic diarrhœa*.

"The most rational theory of choleraic diarrhœa is, that a morbid poison enters the blood either with the air through the lungs, or with the food and drink through the alimentary canal; and that this poison excites certain changes in the blood, in consequence of which some blood-materials are spoiled, and thus rendered not only useless, but noxious. These morbidly changed blood-materials are then discharged from the blood-vessels through the mucous membrane of the stomach and bowels, and are ultimately ejected by vomiting and purging.

"Various as are the remote and primary causes of diarrhœa, this one condition is common to all classes of cases, viz., that the contents of the bowel are unnatural and offensive. These offending materials are the immediate cause of the purging; and they must be expelled from the bowel before the diarrhœa can come to an end.¹

"From the above considerations we deduce one important and guiding rule of treatment, which is this, — *not to attempt by opiates, or by other directly repressive means, to arrest a diarrhœa, while there is reason to believe that the bowel contains a considerable amount of morbid and offensive materials.* It is certain that these offending materials must be cast out from the bowel before the diarrhœa can permanently cease. The effect of an opiate at this stage is to prolong the disease, and to increase the risk of mischief from the retention and reabsorption of the morbid contents of the bowel. If the opiate have the effect of retaining within the blood-vessels some of the morbidly changed blood-constituents, this astringent action will probably be more injurious and even deadly than the retention of morbid secretions within the bowel.

¹ We need not here take into consideration those cases of diarrhœa which result from ulceration or other local disease of the bowel itself.

"The purging is the natural way of getting rid of the irritant cause. We may *favor* the recovery by directing the patient to drink copiously any simple diluent liquid — water cold or tepid, toast-water, barley-water, or weak tea; and we may often *accelerate* the recovery by sweeping out the alimentary canal by some safe purgative, and then, if necessary, soothing it by an opiate. Castor-oil, notwithstanding its unpleasant taste, is, on the whole, the safest and the best purgative for this purpose. It has the advantage of being very mild and unirritating, yet withal very quick in its action. A tablespoonful of the oil may be taken, floating on cold water or any other simple liquid which may be preferred by the patient. A mixture of orange-juice or of lemon-juice with water forms an agreeable vehicle for the oil. If the dose be vomited, it should be repeated immediately; and the patient should lie still, and take no more liquid for half an hour, by which time the oil will have passed from the stomach into the bowels. Within an hour or two the oil will usually have acted freely. Then a tablespoonful of brandy may be taken in some thin arrowroot or gruel; and if there be much feeling of irritation, with a sense of sinking, from five to ten drops of laudanum may be given in cold water. These means will suffice for the speedy cure of most cases of choleraic diarrhoea. If the patient have an insuperable objection to castor-oil, or if the oil cannot be retained on the stomach, ten or fifteen grains of powdered rhubarb, or a tablespoonful of the tincture of rhubarb, or a teaspoonful of Gregory's powder, may be substituted for the oil.

"If the diarrhoea have continued for some hours, the stools having been copious and liquid; if there be no griping pain in the bowels, no feeling or appearance of distension of the intestines; the abdomen being flaccid and empty, and the tongue clean, — we may conclude that the morbid agent has already purged itself away. There will therefore be no need for the castor-oil or other laxative, and we may immediately give the brandy in arrowroot, and the laudanum, as before directed. The rule in all cases is, *not to give the opiate until the morbid poison and its products have for the most part escaped; not to close the door until 'the enemy' has been expelled.* While there are some cases in which the evacuant dose is not required even at the commencement of the attack, there are many others in which the opiate is unnecessary in the latter stage. In some cases of severe and prolonged diarrhoea, it may be necessary to repeat the oil and the laudanum alternately more than once, at intervals of three or four hours. Practical skill and tact are required to discriminate these cases.

"If the diarrhoea be associated with vomiting, this should be encouraged and assisted by copious draughts of tepid water. The vomiting affords relief partly by the stimulus which it gives to the circulation, but mainly by the speedy ejection of morbid secretions.

"Thirst may be allayed by drinking cold water, which may be acidulated by the addition of lemon-juice or a few drops of dilute sulphuric acid. *Care should be taken that the water for drinking is pure.* Organic impurities, such as result from the admixture of sewage, are especially to be dreaded. If the water be of doubtful purity, it should be carefully filtered through sand and charcoal, and then boiled. Impure water is a common exciting cause of cholera.

"While the diarrhoea continues, the diet should consist mainly of rice or arrowroot, gruel or broth.

"In all cases of severe diarrhoea the patient should remain in bed.

"If the purging continue, if the stools become colorless and watery (the purging being of the kind commonly called rice-water purging), and if the surface of the body become cold and blue, the disease is now passing, or has actually passed into the stage of collapse.

"This state of choleraic collapse results from a peculiar arrest of the flow of blood through the lungs, occasioned by a morbid poison. It is not a condition of mere exhaustion. It is not relieved by the remedies for exhaustion; and it is made worse by opiates and by spirituous stimulants, which must therefore be avoided. The patient should be strictly kept in the recumbent position; he should be allowed to drink pure water freely; and should be abundantly supplied with fresh air. Hot flannels or bottles, or bags of sand, should be applied to the feet and legs.

"Cramps may be relieved by rubbing the affected parts with the warm hand.

"Hot baths, whether of water or of air, have been found to be, on the whole, more distressing and exhausting than beneficial.

"Five grains of sesquicarbonate of ammonia, or a teaspoonful of spirit of sal volatile, may be given in an ounce of camphor mixture every two or three hours as a diffusible stimulant.

"The discharges from the bowels, and the condition of the abdomen, should be carefully observed. The discharges always continue, more or less, during the stage of collapse and until the reaction has set in. One of the earliest and surest signs of reaction is the reappearance of bile in the vomited matters and in the stools. When vomiting and purging entirely cease during the stage of collapse, the disease is nearly always fatal.

"One of the main objects of treatment during this stage is to facilitate the escape of the morbid secretions from the alimentary canal. This may be done partly by the use of diluent drinks, and partly by an occasional dose of castor-oil. If we carefully observe the condition of a patient in collapse, we shall often find that the intestines are more or less distended with liquid, and this, too, while perhaps there is general torpor and little or no effort at expulsion. Again, it has often been found that, although there has been a copious watery purging during life, the small intestines contain after death a large amount of a peculiar viscid dirty white material, having a very offensive odor. An occasional dose of castor-oil—a tablespoonful every three or four hours during the stage of collapse—may be useful in removing both these conditions; namely, over-distension of the bowel by liquid, and accumulation and retention of offensive viscid semi-solid secretions.

"The object and the effect of this treatment are not to increase the amount of liquid which is poured from the blood into the stomach and bowels, but simply to assist and to quicken the expulsion of the morbid secretions from the alimentary canal.

"After reaction has occurred, an occasional laxative dose is required—about once in the twenty-four hours during the first two or three days.

"It is worse than useless to attempt to feed a patient during collapse. The secretions of the stomach are utterly deranged; and the power of digestion is suspended. The mildest nourishment administered at this time only adds to the feeling of oppression and general distress, from which the act of vomiting often gives immediate relief.

"After reaction has occurred, and when the normal secretions are restored, the mildest nourishment should be given frequently, but in small quantities—such as milk, gruel, or rice, or arrowroot with a small quantity of brandy, soup, or beef-tea, or chicken-broth. After an attack of cholera, the stomach is sometimes long in recovering its tone and the power to digest solid food. When this is the case, a grain of quinine, with ten or fifteen drops of dilute hydrochloric or sulphuric acid and an equal quantity of chloric ether, may be taken with each meal. The same combination, too, often relieves that distressing sense of uneasiness, with flatulence in the stomach and bowels, experienced by many persons who are not otherwise ill during an epidemic of cholera.

"*Venesection* has often afforded great relief during the stage of collapse. The symptom which appears especially to call for this remedy is rapid breathing with a feeling of impending suffocation. When, with these symptoms, there is a cessation of vomiting and purging, which is probably a result of the almost entire arrest of the circulation through the lungs, I believe that venesection affords the only hope of saving life. It is difficult to obtain a stream of blood in these cases; not, as many suppose, because the blood is too thick to flow, but because, in consequence of the block in the lungs, the blood in the veins is nearly stagnant. The bleeding appears to be beneficial, partly by relaxing spasm, and partly by lessening the distension of the right cavities of the heart, and so increasing their contractile power. Repeated doses of ammonia may help to quicken the circulation.

"*Consecutive fever*.—Reaction from collapse is sometimes followed by a febrile condition—a hot skin, quick pulse, coated tongue, hurried breathing;

often a scanty secretion or even a complete suppression of urine, with drowsiness tending to pass into coma. These unfavorable symptoms are more common when, during the earlier stages of the disease, opium and alcoholic stimulants have been freely given; but they may occur when no such means have been employed.

"The best treatment consists in a scanty diet without alcohol, copious diluent drinks, with saline effervescing draughts, an occasional aperient, castor-oil, or sulphate of magnesia or a Seidlitz powder; counter-irritation over the lungs and kidneys, and sometimes local bleeding to relieve congestion of those organs.

"In some cases there is complaint of pain in the region of the stomach during convalescence. This may be relieved by the application of a few leeches over the seat of pain. If, after reaction, the stomach remain irritable, with frequent vomiting, iced water is an agreeable and efficacious remedy."

ART. 24.—On the Relation between Cholera and the Diarrhœa which accompanies it, and the Treatment of the latter Disease.

By SIR HENRY COOPER, M.D.

(*British Medical Journal*, June 16, 1866.)

From a review of these important questions, Sir Henry Cooper concludes that—

"1. In epidemics of cholera an unusual amount of diarrhœa prevails; it precedes cholera, and extends laterally beyond it.

"2. In the ordinary course of an attack of cholera, diarrhœa is the first symptom, and is undoubtedly the first stage of the disease.

"3. This premonitory diarrhœa is not distinguishable by its history or symptoms from the sporadic or ordinary diarrhœa.

"4. Cases in which diarrhœa has been stayed do not pass into cholera, while those in which it has been neglected may and often do.

"5. The astringent mode of treatment is generally as efficacious in arresting diarrhœa during cholera visitations as at ordinary times.

"6. And as a corollary from the above, it is the duty of those in authority in cholera epidemic seasons to search out and arrest *all* cases of diarrhœa, by the organization of a sanitary police for the detection of the disease, and its treatment in its earliest stages."

ART. 25.—Case of Spasmodic Cholera Disease successfully treated by Hot-water Packing.

By F. A. BULLEY, F.R.C.S., Senior Surgeon to the Royal Berkshire Hospital, Reading.

(*Medical Times and Gazette*, Aug. 11, 1866.)

THOS. P., aged forty, a county police constable, residing at Maiden Erleigh, near Reading, a temperate man, and previously in good health, was attacked while walking on his beat, about one o'clock p.m., on Thursday, Aug. 2d, with sudden violent pain in the abdomen, followed almost immediately by tonic painful spasm of the abdominal muscles, and a sensation as if his intestines were being drawn up in knots. It was not accompanied by any particular feeling of sickness, nor had he had any previous diarrhœa. The symptoms had been gradually increasing in severity until Mr. Bulley saw him—about half-past three the same day—when he found him writhing with the most excruciating pain. The abdominal muscles were universally hardened and contracted by spasm, somewhat resembling tetanic spasm, but more continuous and unre-

laxing, and extremely sensitive to the touch. The most intense pain was just in the epigastric region, extending backwards to the spine, as if the diaphragm was affected with the spasm. He was in a cold, clammy perspiration, pulse feeble, and he was beginning to feel extremely faint. Mr. Bulley immediately ordered the abdomen to be fomented, and the flannels, wrung out of water, as hot as he could bear, having been applied three or four times, his body was enveloped in blankets to the number of five or six, the outer one being closely wrapped round his neck, to confine the heat generated by the wrapping, and to take the following draught every two or three hours:—*R* Elixir opii (Newbery's) ℥ x.; tinct. capsici ℥ v.; olei menthæ virid., olei anisi, āā ℥ ij.; confect. aromat. ℥ j.; aquæ menthæ pip. ad ℥ jss. M. ft. haust. To take a little brandy-and-water occasionally.

On visiting him about two hours afterwards, Mr. Bulley found him lying in a profuse perspiration, which, with the medicine, had much relieved, but not quite removed, the pain. The rigidity of the abdominal muscles had greatly subsided, and he altogether felt much more comfortable.

About seven P.M. he had another attack of pain, but not by any means so severe as the first, for which his wife again fomented him and repeated the medicine, which again relieved him, some little amount of abdominal hardness, however, continuing. About twelve at midnight he had another attack, when his wife again packed him up in the wrappings and repeated the mixture. Shortly after this, while in the perspiration induced, he fell asleep, and on awaking about an hour afterwards he found the pain had left him, the abdominal spasmodic hardness had become quite relaxed, and he felt in every respect much better.

Friday, next morning.—He is quite free from pain and spasm; feels very weak, but the pulse has recovered its strength, with a natural uniform warmth of the body. In the afternoon he was apparently free from all symptoms of the disease, except that he felt somewhat languid and faint. Ordered to take cold strong beef-tea and small quantities of brandy-and-water for drink, and the following mixture should the pain or spasm return:—*R* Chlorodyn. ℥ xl.; aquæ menthæ virid. ad ℥vj. M. ft. mist. Take a fourth part if necessary.

Next day the patient had apparently quite recovered from his complaint.

The foregoing case was, Mr. Bulley believes, of the nature of the prevailing epidemic, arrested in its progress just at the point when the suspension of the organic functions was commencing, and which would in all probability have gone on to extreme collapse, if no means had been employed to prevent it; and he felt satisfied that nothing but the previous good health of the patient and his temperate habits enabled him to bear up against the continued and violent spasm so long as he did, without the induction of the more advanced and dangerous symptoms of the disease.

ART.—26. *On the Use of the Calabar Bean in the Treatment of Cholera.*

By Dr. MAPOTHER, Surgeon to St. Vincent's Hospital, Dublin.

(*The Medical Press and Circular*, September 12, 1866.)

Dr. Mapother reports five cases of cholera, in the treatment of which he used the Calabar bean. He considers that the state of collapse indicates a highly excited condition of the vaso-motor nervous system, inducing spasm of the muscular tissue of the arteries, and consequent constriction of their calibre. The Calabar bean possesses the power of breaking or temporarily paralyzing the vaso-motor influence, and Dr. Mapother thought it was worth a trial in cholera. The results of his observations to the present time are given in the following cases:—

“1. Margaret Devine, aged twenty-eight, was seized with purging, vomiting, and cramps, about three o'clock P. M., on the 5th; she was treated with stimulants until about ten o'clock on the 6th, when she was admitted into the Meath Hospital; purging and vomiting had ceased, but the cramps in the legs still

distressed her. Neither the radial nor brachial arteries gave pulse, but in the common carotid it counted 92, and felt extremely feeble; the tongue, face, and extremities were very cold, and the surface was almost of a purple plum-color; voice was nearly inaudible; the pupils were fully dilated. Every one anticipated death within a very few hours. The powdered bean was the only preparation then procurable, and of it three grains mixed in two drachms of water were administered every second hour. The only other treatment consisted in the application of external warmth; vomiting did not recur, nor did purging, but during several hours of the night blood freely discharged from the bowels. The pupils contracted much after the third dose, and about the same time the coldness and blueness were much decreased. The carotid pulse did not alter in frequency or volume to any considerable extent throughout. At nine A. M. on the following morning she described a sensation of a lump in the stomach in terms very similar to those employed by Dr. Frazer, in describing his own symptoms after a full dose of Calabar bean; at ten o'clock the force and frequency of the circulation and respiration declined, and she sank shortly before midday.

"The intestinal bleeding probably produced, or at least hastened, death; and it may be questioned whether it was due to the very turgid state of the rectal veins, which is usual, or to the action of the drug, which is cathartic.

"2. Michael Shelly, aged fifty, was seized with purging and vomiting early on the morning of the 6th, in a room from which two of his children had been removed to hospital with severe cholera. I saw him there at eleven o'clock, when he had just passed a rice-water stool, and was attacked with cramps in the forearms. There was no coldness or lividity of surface, but the eyeballs were much sunken, and his countenance was terror-stricken. The pupils were small, a condition which his trade, that of a tailor, may have made habitual. The administration of three-grain doses every second hour was commenced at one o'clock when he arrived at the hospital; but at seven P. M. a tincture made with five ounces of spirit to four ounces of the bean was procured and given in four-drop doses instead of the powder. The purging and vomiting ceased; he remained warm, suffered no cramps, and the pupils considerably contracted. He complained of a peculiar feeling of weight in the stomach, but nothing else save very great weakness. He remained in this condition during Friday, but on Saturday morning, at nine o'clock, it was found that the rice-water purging and vomiting had returned, and his skin was sensibly colder. He was depressed extremely by the death of his child, which had just occurred in the next ward. As he had therefore got worse under full doses of the drug, I did not feel justified in continuing it, and small doses of calomel were prescribed, and as no urine was secreted, the loins were cupped twice, two ounces of blood being drawn the second time, and a bran-and-turpentine stupe was applied. At nine on Sunday morning he passed water freely, and may be now said to be rapidly recovering.

"3. Patrick Gahan, aged fifty-five, was seen by me at his residence at half-past nine o'clock on Friday morning, 7th. He had had rice-water purging and vomiting; was violently cramped in the legs; his face was pale, the eyeballs much sunken, pupils dilated, his hands and feet cold and bluish, and the radial artery was very thready. On his removal to hospital the tincture was given as in the preceding case, and external warmth was assiduously applied. Two stools were passed during the day, but the other symptoms gradually disappeared, and on Saturday he was almost fit to be discharged.

"4. William Crutchfield, aged fifteen, at about four o'clock on Friday morning was severely purged and vomited, and fainted after one severe fit of purging. He was admitted at half-past twelve with these symptoms and with cramps, but no positive coldness or weakness of pulse.

"The tincture was administered in the same way; the purging and vomiting gradually ceased, and he became warmer; the pupils fully contracted. On Saturday morning he was removed by his father, some prostration alone remaining. He has since remained quite well.

"A fifth case was admitted in full collapse three hours since, and after the

second dose considerable improvement was manifested, but the details must be reserved for a future report.

"The above cases," adds Dr. Mapother, "are too few for any positive conclusions to be drawn, but they are published in order that any physician who thinks that my reasons for suggesting the drug are sound may give it a trial on a larger scale. It may be better to administer the medicine by subcutaneous injection, as absorption is weakened, in larger doses than I have done, or combined with stimulants, anti-spasmodics, disinfectants, astringents, eliminants, or any other class of drugs which have been apparently useful."

ART. 27. — On the Use of Iced Water in the Treatment of Cholera.

By Dr. DUNCAN MENZIES, Deputy Inspector-General of Hospitals.

(*The Lancet*, June 23, 1866.)

From an extensive experience in India, Dr. Menzies speaks highly of the utility of iced water, in *small portions*, in the treatment of cholera. "I am aware," he says, "that iced water has been frequently employed in the treatment of cholera, but I think without sufficient consideration as to its action and effects. When given, as is frequently the practice, *ad libitum*, it is very apt to disagree, and be directly afterwards rejected, from its accumulated bulk and weight occasioning a sense of oppression and sickness at the precordia; whereas, when the water is taken in sparing proportions I have recommended, this inconvenience is avoided, and the sufferers will, on the contrary, tell you that they feel much relieved and refreshed after each draught; and this goes on until the stomach regains its normal tone, when medicines will not only be better borne, but also absorbed. I may add that I put this treatment into practice during my stay in the upper provinces of Bengal, which extended over a period of six years, and found it very successful, whether the case was seen early or late in the disease. In some cases there was no previous ailment; in others the attacks had been preceded by diarrhoea."

ART. 28. — On the Treatment of 123 Cases of Cholera in the Liverpool Parish Infirmary, July and August, 1866.

By J. WILSON M'CLOY, &c., Resident Medical Officer at the Liverpool Parish Infirmary.

(*The Lancet*, August 18, 1866.)

The first cases (two) were brought to this hospital on the 10th of July. Both were in the evacuation stage, and were treated with astringents, stimulants, and ice-water. The astringent used was a mixture containing spirits of chloroform, Battley's sedative solution, creasote, and compound chalk mixture. The stimulant was brandy, freely and frequently administered. Ice-water was given *ad libitum*. The symptoms of collapse rapidly set in, and both cases proved fatal: one in twelve, and the other in six, hours after admission.

On the 12th of July the disease made its appearance in the foundling department of the institution. This was one of those sporadic, or at least unaccountable, cases which we occasionally meet with. A nurse in one of the foundling wards, who had not for months been out, or in communication with any one from without, was suddenly and unaccountably seized with violent vomiting, painless, profuse purging, and violent cramps in the extremities. The case was considered one of cholera. The woman was removed at once, the place thoroughly disinfected, the bedding, &c. burnt, and the children transferred to a separate ward. This woman was treated in a similar way to

the former cases, and with the same result, death occurring in twelve hours after admission.

The same night two of the children to whom this woman was nurse, and who slept with her, were seized with choleraic symptoms. They were treated with camphor, according to the "Rubini" plan. Both cases proved fatal, one in six, the other in eleven, hours.

The following morning four other children, also charges of this woman, were seized. The camphor treatment was adopted, and three cases proved fatal.

From this time till the 26th of July there were 56 entries. Of these 5 were moribund on admission—dying in from two to seven hours. We have then a total of 51 cases treated up to the 26th ult. Of these 19 were by camphor, 7 by ice, and 25 by what M'Cloy calls the "mixed plan." The following are the results:—

Cases.	Mode of treatment adopted	Deaths.
5	(Moribund on admission)	5
19	Camphor ("Rubini" plan)	13
7	Ice to spine and ice-water	7
25	Mixed treatment	13
—		—
56		38

Only seven of these fifty-one cases were in the stage of collapse, the rest were in the evacuation stage. In estimating the value of the camphor treatment, it is only fair to state that it was principally pursued amongst a most unfavorable class of patients. Dr. M'Cloy alludes to those puny, rough-skinned, pot-bellied, emaciated children, so common in the lower ranks of life, and in the founding department of workhouse infirmaries. Ice to the spine, either alone or alternated with hot-water bags, was miserably unsuccessful. The application did not seem to have the slightest effect in producing reaction where there was any considerable collapse. While the ice-bags to the spine were borne without complaining, a similar application of water at 120° Fahr. caused the greatest pain. The mixed treatment included the use of astringents, sedatives, stimulants, ice, ice-water, the hypodermic use of morphia, hydrocyanic acid, strychnine, and camphor, dry heat, sinapisms, stupes, &c. The astringent mixture, which was the same as that used in the first cases, speedily arrested the vomiting and purging; but this was not followed by any general improvement. Dry heat and sinapisms proved beneficial. Brandy and ice-water were administered freely.

On the evening of the 26th the castor-oil treatment was first ventured on as a sort of forlorn hope.

Since the 26th July there were 67 cases under treatment. Of these, 11 were moribund, dying in from ten minutes to eight hours subsequent to admission. This leaves 56 cases, which were thus treated:—

Cases.	Mode of treatment adopted.	Deaths.
11	(Moribund on admission)	11
2	Internal administration of strychnine	2
4	Astringent and stimulant	4
50	Eliminative	17
—		—
67		34

The two cases in which strychnine was administered were just in the transition stage between evacuation and collapse. The dose was one thirtieth of a grain every fifteen minutes, with permanganate of potash and carbonate of soda. The astringent and stimulant treatment was that previously noticed. In the remaining fifty cases castor-oil was used. "With the results," writes Dr. M'Cloy, "I have every reason to be perfectly satisfied. Of these fifty cases, only ten were in the stage of evacuation; and of the remaining forty, nineteen were in a state of the most extreme collapse. I observed in the *Pall Mall Gazette*, of August 4th, a statement to the following effect: 'The cholera at

Liverpool is evidently subsiding, and as usually happens in such a time, the larger proportion of recoveries is attributed to the mode of treatment, castor-oil having been substituted for camphor and ice.' Now, exactly the opposite of this is the case. *The disease is not subsiding; choleraic diarrhoea is increasing rapidly, and the cholera type is now more severe.*¹ It cannot be said that the cases treated on the eliminative plan were milder in character, than those treated by camphor, astringents, or ice, for, so far from this being the case, I can most unhesitatingly affirm that they were not only *more severe in character*, but were not, as a rule, prescribed for until collapse had for some time set in. Of the seventeen deaths, two occurred from pneumonia during convalescence; two were cases in which there was no radial pulsation, and in which neither *emesis nor purgation could be produced.*

"The method of administration of the castor-oil was, in the majority of cases, that advised by Dr. Johnson in his work on Epidemic Diarrhoea and Cholera. I have found in nearly every instance a wonderful tolerance of this medicine. The most difficult point in the whole treatment of the disease I believe to be that connected with diet, more especially during the stage of convalescence. From want of proper attention to this point, I believe four cases relapsed, two of which died, and two recovered under the castor-oil treatment. From having watched the effects of alcoholic stimulants in collapse, I am of opinion they invariably diminish the force and frequency of the pulse, and augment the symptoms arising from pulmonary obstruction. Thermometry, so far as I could judge, afforded no measure of the intensity of the collapse. In every case the temperature of the body rose one or two degrees after death. The 'rice-water' evacuation has not been at all a characteristic symptom. The discharges presented every variety in appearance. The peculiar character of the voice, the *facies cholericæ*, and the incessant thirst, have been the best marked and most characteristic signs. While in many cases the attack came on suddenly, and unaccountably, in the majority there were 'premonitory diarrhoea' and abdominal uneasiness. The cases have been of every degree of severity. The disease, as a rule, has only occurred in the low-lying districts, where the unhygienic conditions connected with food, filth, misery, overcrowding, and intemperance, exist notoriously. *The eliminative treatment has been most successful.* It has been a success which those only who have seen and compared the relative severity of the cases can appreciate — a success which statistics cannot show."

ART. 29.—On the Treatment of Cholera.

By Dr. A. CLARKE, Physician to the London Hospital.

(*London Hospital Reports*, vol. iii.; 1866.)

The following is a summary of the results of treatment of cases of cholera, under the care of Dr. Andrew Clarke, during the recent outbreak. Subjoined are the formulæ referred to in the summary:

Mistura Astringens.

Decoct. hæmatoxyli	Half an ounce.
Æther. sulph.	10 minims.
Acid. sulph. arom.	15 "
Camphoræ	2 grains.
Pulv. capsici	Half a grain.

Every fourth hour.

Mist. Antim. Tart.

Pulv. antimon. tart.	2 grains.
Magn. sulph.	Half an ounce.
Aquæ	Half a pint.

Half an ounce every half hour.

¹ A reference to the reports of the Medical Health Officer will settle this point.

Lead Pill.

Plumbi acet.	2 grains.
Camphoræ	A grain and a half.
Ext. opii.	One sixth grain.
Creasoti	One sixth minim.

One pill every hour.

Mistura Quinæ c. Ferri.

Quinæ sulph.	1 grain.
Tinct. ferri mur.	15 minims.
Aquæ	One ounce.

Every two hours.

The following table refers solely to treatment in the *stage of collapse*. When reaction began the treatment was modified according to individual peculiarities:

Treatment.	No. of Cases.	Died.	Living.
Mistura astringens	48 . . .	31 . . .	17 . . .
Mistura rubra (water and sugar)	56 . . .	28 . . .	28 . . .
Castor-oil	21 . . .	14 . . .	7 . . .
Saline lemonade	20 . . .	6 . . .	14 . . .
Mist. antimon. tart.	2 . . .	2 . . .	0 . . .
Mist. quinæ c. ferri	3 . . .	1 . . .	2 . . .
Lead pill	9 . . .	4 . . .	5 . . .

"The unenviable position which the *Mistura astringens* occupies in the list," observe the reporters of Dr. Clarke's treatment, Mr. J. McCarthy and Mr. Dove, "may be in part, if not altogether, due to the fact that all the cases at the commencement of the epidemic, when the type of the disease was unquestionably worse, were placed on that treatment. This explanation seems the more probable, as at the Wapping temporary cholera hospital this mixture was more successful.

"In very bad cases the *Mistura astringens* and castor-oil, after a few doses, produced such loathing, that the use of them had to be discontinued.

"In the list of recoveries are included several mild cases of true cholera; and two patients, who were removed by their friends, of whom one was ascertained to have afterwards died; but at least between fifty and sixty were extremely bad cases, in which either in collapse, or in reaction, the prognosis had been unfavorable.

"The *Mistura quinæ c. ferri* was not used until a late period of the epidemic, but many of the cases still in the hospital were treated with it, and are doing remarkably well. Although it shares the fate of all other medicines, in being *apparently* all vomited up as soon as swallowed, yet some is retained and absorbed, as is proved by iron being found in the urine, and by the color of the discharge from the bowels."

ART. 30.—*On the Use of Warm Baths in Cholera.*

By Dr. A. CLARKE, Physician to the London Hospital.

(*London Hospital Reports*, vol. iii., 1866.)

The use of warm baths in the treatment of cholera cases admitted into the London Hospital during the recent epidemic, would appear to have been followed by more beneficial effects than are commonly attributed to this method of relief in the disease. "Baths at a temperature of from 98° to 104° Fahr.," say Dr. Clarke's clinical reporters, "were given, with most marked effect, in about one hundred and thirty of the worst cases. In almost all the cases there was commonly, for a few seconds, difficulty of respiration; and in many, for about the same period, an unpleasant sensation of heat. In children, fright also con-

tributed in causing some difficulty; but generally, in less than a minute, the good effects of the bath became manifest. Cramps ceased, anxiety of mind vanished, pulse returned, or if originally to be felt, increased in volume and frequency. Many who had before moaned or shouted incessantly with pain, began to converse upon indifferent subjects, or in many cases sank into a tranquil slumber. Often recovery appeared to be the direct consequence of the bath, the improvement being permanent; but in many more, removal from the bath became the signal for the return, more or less rapidly, of the former symptoms.

"The testimony of all who had a fair opportunity of judging, is unanimous as to the relief afforded by the warm baths, the most convincing being that of the patients, who, in some cases, craved incessantly for them, and remained in, at their own request, for nearly an hour at a time.

"In a very few cases no relief was derived, but those were cases of great collapse, where their employment had been dictated by despair, rather than by any hope of benefit."

ART. 31.—On the Treatment of Cholera by the Injection of Fluids into the Veins.

By Mr. LITTLE, Assistant Surgeon, London Hospital.

(*London Hospital Reports*, vol. iii., 1866.)

Fifteen cases of cholera admitted into the London Hospital during the recent epidemic were treated by the introduction of fluid into the veins. Only patients "with no apparent chance of recovery" were injected; "cases of extreme collapse, all of them pulseless at the wrist; livid, with low external temperature, and having lost quantities of fluid, either by purging or vomiting, generally by both." In two of the cases, defibrinated sheep's blood was injected; in other two, serum of sheep's blood; and in the remainder, a saline fluid, which was constituted as follows:—

Chloride of sodium	60 grains.
Chloride of potassium	6 "
Phosphate of soda	3 "
Carbonate of soda	20 "
Distilled water	20 ounces.

In most of the cases, and in all the successful ones, two drachms of pure alcohol to the pint of water were added, the proportion used successfully by Dr. Little in 1849. The fluid was injected at a temperature of about 110°; in the earlier cases by a special syringe, subsequently by gravitation.

Of the fifteen cases, four recovered, in all of which the saline fluid, to which alcohol was added in the proportion stated, had been used.

In addition to Mr. Little's account of the treatment of cases by injection of fluids into the veins during the recent epidemic, the same volume of the London Hospital Reports contains an important paper on the treatment of cholera by this method, contributed by Dr. Little.

ART. 32.—On the Physiological Formula of Cholera and of the Treatment.

By B. W. RICHARDSON, M.A., M.D., F.R.C.P., Senior Physician to the Royal Infirmary for Diseases of the Chest.

(*Medical Times and Gazette*, August 4, 1866.)

Dr. Richardson sustains the following theorems respecting cholera, and founds upon them certain definite rules of treatment:—

1. The symptoms of cholera are due to the separation of water from the albumen of the blood and of the tissues.

2. The separation of water from the blood in cholera is due either to a local osmotic change in the alimentary canal, or to a general osmotic change in the blood itself.

3. The collapse of cholera is due not only to the elimination of water from the system, but to the removal by the water of the heat of fluidity or latent heat of the tissues.

From these theorems it follows that there are three lines of practice open in cholera. These are, with their application, as follows:—

1. To arrest elimination.

2. To supply the caloric of fluidity.

3. To restore the homogeneousness of the blood.

If we could see a certain and simple way of restoring the homogeneousness of the blood, we should have in our hands an immediate antidote to cholera, and the third suggestion would become the first and only suggestion. Unfortunately we have yet, by continued experiment, to learn this antidote, and we must, as a consequence, reserve the trial of it for the extreme stages of the disease—a last resource.

To fulfil the first of these indications—viz., to arrest exudative discharge—there are only two sets of remedies known: opium, which acts, when it can be absorbed, on the involuntary nervous system, producing contraction of the capillary vessels of the alimentary surface (in the same manner as it produces contraction of the pupil); and direct local astringents, which act on the secretions of the canal—viz., creasote, tannin, the mineral acids, and some metallic salts. It must be clear that none of these are curative remedies in the extreme sense of the term—that is to say, they are not direct remedies or antidotes for the primary derangement. But by their astringent action they prevent the water of the body from being conveyed away, and in this sense they conserve the animal caloric represented in the water, and which is absolutely lost when the water actually flows from the organism.

To fulfil the second indication, to sustain the caloric, there are two methods open. One of these is to prevent, as far as is possible, the radiation of sensible heat from the body. The cholera patient should be treated in the same manner as a man who is exposed to extreme coldness of the air. His animal fire low, and the conveyance of caloric in his system interfered with, the choleraic sufferer is the parallel of an Esquimaux exposed without shelter to polar air and deficiency of food. To expose a man reduced in temperature to any process that shall remove from him caloric, is contrary to all reason; to give him the advantage of the hot bath and to maintain his temperature by efficient clothing is the most natural, as it is the most obviously useful procedure. One has only to see a few times how the physical forces of life improve when the patient, collapsed and cold, temporarily rallies in the hot bath, to be assured of the soundness of the practice. This, however, is not again a curative process in the direct sense, but conservative only: for the body, by its external surface, cannot absorb caloric unless there be actual destruction of its surface.

It is still a desideratum to supply animal caloric, and this, Dr. Richardson points out, may be accomplished to a marked degree by attention to the fluids which are given as drinks to choleraic patients. He denounces as utter folly, and almost worse, the practice of charging such patients with cold and iced drinks. Presuming that a choleraic sufferer is just sustaining his natural caloric at 96° Fahr., he does this by the gradual consolidation of his tissues and the giving up from them their heat of fluidity. At this stage let there be given to him a pint of fluid at 40° Fahr., and straightway, from an equal weight of his body, there is extracted by equalization 28° Fahr. of caloric, which, as he is placed, will never again be applied for the production of force.

This plan of cooling down a cooling body is, according to Dr. Richardson's estimate, adding evil upon evil. To treat the disease rationally, the reverse principle ought to be invariably carried out; that is to say, foods and drinks should be made the means for introducing heat abundantly. It seems to him,

on this reasoning, to be an important point to produce a substance which shall, as a liquid food, supply tissue material and with that heat.

Taking advantage of the fact that crystallizable fat, when mixed with albumen, can be dissolved by the heat of water, which heat it fixes in becoming soluble, and gives up again on solidifying—Dr. Richardson set to work to produce a food having the properties named. After numerous attempts the following proved most successful:—

Take of pure stearine two ounces by weight: of best fresh butter, two ounces; of whites and yolks of eggs, well beaten up, eight ounces; of carbonate of soda, twenty grains; of chloride of sodium (common salt), eighty grains; of water, two ounces.

As to mode of preparation for food. First dissolve, with heat, the stearine and the butter until they are both melted; then add the carbonate of soda and common salt to the eggs, and when these salts are dissolved in the egg stuff, mix it with the oily fluid, taking care that the latter is not of a temperature above 140° Fahr.; let the whole cool to a soft consistency, and finally, on a slab or a board, rub in the water with a broad spatula. The compound may now be placed in a wide-mouthed jar; in a little time it settles into a moderately hard mass, and is ready for use.

In administering this compound to the sick, take one ounce, or a tablespoonful; place it in a large breakfast-cup, and rub it up equally with a teaspoonful of glycerine, or a teaspoonful of ordinary water, or a teaspoonful of fine sugar and water, or a teaspoonful of honey and water. Next pour upon the mass three ounces of water, *actually boiling*, and incorporate well. The solid substance will now briskly and evenly dissolve, and will be at once so cool that it can be drunken. The thermometer plunged in it will only register from 130° to 135° Fahr. In this process the heat of the boiling water has been mainly (allowance must be made for conduction and radiation) expended in rendering fluid the solid matter. We may estimate safely, that in addition to the sensible heat, 44° have been rendered latent for every ounce of fluid at least, which heat will be yielded up to the tissues if the fluid make its way into them.

Contrasted with the supply of a pint (pound) of ordinary water at 40°, a pint of this fluid would effect a difference equal to 204° of added heat to a pound weight of the substance of the organism.

Dr. Richardson adds, that the fluid food prepared as proposed above is very agreeable to the taste, and that it may be made the vehicle for conveying either solution of opium, creasote, or dilute sulphuric acid, in proper doses. He found after taking nine ounces of the fluid no sensation of nausea or uneasiness, but in the course of half an hour, the surface of his body became very hot, and the heat increasing, remained unpleasantly high for several hours. For patients who would object to drink the fluid while heated, it might be allowed to cool ten or even twenty degrees. A glass of port wine is easily miscible with four ounces of the fluid.

The last indication of treatment is to endeavor to restore the homogeneousness of the blood, and to bring the red corpuscles into proper circulatory action. This can only be effected by injection direct into the veins, and we know from experience that in the last stages of collapse the injection of certain fluids into the veins has been attended by remarkable results; the collapse has, for the time, ceased, and, in some instances, the appearances of recovery have been so decided that the most sanguine but delusive hopes have been raised.

The great question to be settled is—What fluid shall be injected? Blood has been injected and has failed; milk has been injected, and has usually failed; saline solutions have been injected, and have, as a general rule, failed; simple warm water has been injected, and has, in its turn, failed. In short, none of these solutions have been potent in saving life, but one and all of them have, for a time, averted death.

The reason why certain immediate but not lasting benefits have followed these various injections is, that they have always been injected after being heated up to blood-heat; the caloric thus applied has been the underlying basis

of the transient success. Hence we must consider the question of transfusion in a new light, or success from it will continue to be only temporary.

In respect to transfusion in the collapse of cholera, there is as little difficulty in accounting for the ultimate failure of the proceeding, as for the temporary success. The success depends on the infusion of caloric, the failure on the inability of the fluids injected to sustain the calorific activity.

What then do we want in the way of a fluid? Dr. Richardson thinks that the fluid should contain digested and easily hydrating albumen; fatty substance that would solidify at a low temperature; a small quantity of saline matter, and a substance that will easily pick up the blood corpuscles, when they have been partially deprived of fluid, and restore them to their natural form and character. He has worked upon drying blood to test for such a fluid, and at last has arrived at the following formula, which, on blood out of the body at all events, answers the purpose well. He gives the proportions for a pint of fluid.

Of white of egg take 4 ounces by weight; of common salt, 1 drachm; of carbonate of soda, 1 scruple; of clarified animal fat, 1 ounce; of pure glycerine, 2 ounces; of water, sufficient to make 1 pint. In preparing, dissolve the common salt and carbonate of soda in the water, and having well whipped the albumen, add that also to the water. Place the mixture on a warm bath, and raise the temperature to 135°; keep the mixture steadily stirred and digest at this temperature for one hour. This constitutes an artificial serum, the albumen of which hydrates freely. Having taken the artificial serum off the bath, place the fat and the glycerine together in a crucible, and melt the fat in the glycerine. When the process of solution of fat is complete, pour the solution into the artificial serum at or about 120°, and stir in carefully; set aside that the fluid may cool to 80° Fahr., at which point all the fat that is insoluble at 80° will float on the surface; take this off and filter through coarse paper or closely-woven cloth.

The fluid thus obtained is of pinkish color, of alkaline reaction, of saline sweetish taste, and of specific gravity, 1038. It picks up semi-fluid blood with instant readiness, and diffuses it most equally. Heated, it takes up one-third more caloric than does water in the same time, and in cooling it restores nearly one-third more.

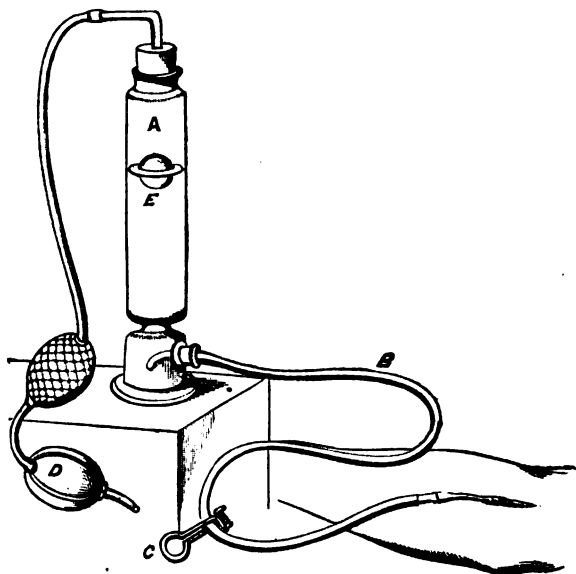
From his experience with mere saline injections, Dr. Richardson infers that the fluid might be injected, at a temperature of 106°, into the veins of a collapsed adult, in the proportion of two pints at one time.

In reference to the mode of injecting the veins, Dr. Richardson observes that the greatest mischief has arisen in transfusion, from errors in the operation. The operator should ever remember that in this process he is feeding, not forcing: he should keep in mind how gradually nature feeds the veins by the thoracic duct, and he should imitate her; there is no necessity for force, none for hurry.

Above all things, in feeding by the veins the syringe should be thrown aside: it is a dangerous, bad instrument for the purpose. To replace it, he has constructed a simple instrument, which he has used with great success. This instrument, described best in the subjoined sketch, consists of a glass cylinder (A), with a flexible tube (B) running from its lower part or chamber for insertion, by means of a quill, or hollow probe, into the vein to be injected; the upper part of the cylinder is provided with a stopper, through which a tube passes, connected with a small pair of hand-bellows (D). Within the cylinder is a small hollow ball (E), or safety-valve regulator, which floats if there be fluid in the cylinder until the fluid allows it to descend to the constricted lower part of the cylinder, when all further passage of fluid is prevented. The flow of fluid along the escape tube can be checked, or set at liberty at pleasure by the clip (C).

In using this instrument, first place the warmed fluid to be injected in the cylinder (A) and let a little run through the escape tube (B) to displace all the air; next close the escape tube by means of the clip (C); then having opened the vein while it is being pressed upon from above, insert and fix the quill or hollow probe at the end of the escape tube, and when all is ready for the fluid to flow, remove the clip and raise the cylinder two or three feet above the patient. The ordinary fluid pressure will now usually suffice to carry the fluid

into the body equally and gently; but if there be any obstruction, the merest pressure of the lower ball of the hand-bellows will remove it. As the fluid



descends, the hollow ball goes down with it to within three inches of the bottom of the cylinder, where it is opposed by the constricted neck, and where it effectually closes in all that is below it, so that no air can possibly get into the vein.

This instrument works so easily and effectively, that with it Mr. Gay and Dr. Richardson injected the whole body of a dead subject with blood by the femoral artery until the fluid escaped from the nostrils; it acts equally well on large living animals.¹

ART. 33. — *On the Physiological Conditions which avert a fatal result in Cholera.*

By JOHN GEORGE FRENCH, F.R.C.S., Surgeon to the Infirmary of St. James's, Westminster.

(*Medical Times and Gazette*, July 21, 1866.)

Mr. French holds, from a study of this subject taken from the point of view which is afforded by the recovery of patients from the severest forms of the disease, that the circumstances which avert the fatal effect of this poison are the following:—

- 1st. Diminution of the heart's action.
- 2d. Diminution of the aëration of the blood.
- 3d. Excretion of the poison by the alimentary canal.

The diminution of the heart's action is, in other words, the arrest of the circulation of the poison. In practice we adopt this principle, in the examples of venomous bites, by the ligature and other contrivances to prevent the entrance of the poison into the circulation.

¹ Messrs. Krohne and Sesemann manufacture the instrument, with all the details shown in the diagram.

Next of the diminution of the aëration of the blood. This has been mistaken for the condition known as asphyxia. Dr. Edmund Parkes has, however, very clearly pointed out a material difference between the two conditions. Thus, he says, "In asphyxia the cause is the absence of a respirable gas. In cholera there is some condition which prevents the blood from submitting itself to the action of the air." Mr. French believes that herein lies the true distinction. Thus, instead of being misled by the analogies of syncope and asphyxia, from which the points of difference are far stronger than those of resemblance, the more reasonable assumption is, that poison, the nature of which is to destroy life, is so bad a thing to circulate in the blood, that, while it exists in the blood, the less circulation there is of it the better; and this explains the remedial influence of—1st. The diminution of the heart's action; 2d. The diminution of the aëration of the blood. We now have to consider that part of the remedial process which is assigned to the alimentary canal.

Were it only necessary to relieve the congestion consequent on the abnormal condition of the thoracic viscera, we might regard the profuse evacuations of the alimentary canal as an obvious method of relief; indeed, in certain structural obstructions of the heart's action, we use the elaterium to afford relief by producing similar evacuations, but in cholera we have by this time a direct elimination of the poison itself, which when eliminated, results in a gradual restoration to health.

The most direct proof that the elimination of the poison is really effected by this process is the fact that the drinking of water contaminated with the excretions is capable of giving the disease to any number of people who swallow it.

If, indeed, the poison of cholera is of such mortal tendency that the thoracic viscera cannot safely perform their natural functions, we need not be surprised if a perfectly abnormal duty should be assigned to the alimentary canal, and such, in fact, is the case. Instead of performing its natural function of elaborating fresh material for the supply of the waste of the system, it is wholly and energetically engaged in throwing off the poison from the system.

When the poison is expelled, the mechanism of reaction from the state of collapse is carried on by the absorption of water into the bloodvessels, and by the action of vomiting which supplies the place of the *vis a tergo*, but which in the normal circulation of the blood is supplied in another way.

With such a distinct and consistent theory as this to guide us, Mr. French believes as satisfactory a course of treatment may be pursued in cholera as any whatever known in the practice of medicine, not excepting even such remarkable exhibitions of skill as are evinced in the treatment of syncope from all its varied sources, or the best understood mechanical injuries where no mistakes whatever are made—never forgetting that the worst cases of all diseases and injuries are inevitably fatal.

In the clinical treatment of cholera, that which most contributes to the recovery of the patient is attention to all those circumstances which most refresh him—the free use of iced water, the most grateful of all, and which, while it assuages a marvellous thirst, requires no digestive power, which is utterly absent. Seltzer water is also free from objection. Strict attention should also be paid to the feelings of the patient with regard to temperature. It is most unwise to submit him in any way to disagreeable heat, which materially adds to his sufferings and danger.

ART. 34.—*On the Feeble Pulse as an Index of Treatment.*

By MR. J. C. SKEY, F.R.S., Consulting Surgeon to St. Bartholomew's Hospital.

(*Medical Times and Gazette*, July 21, 1866.)

On this subject Mr. Skey remarks:—"I consider the treatment of the great majority of diseases to consist in increasing the quantity of healthy blood and

giving force to the action of the heart. *You can't cure disease with a feeble pulse.* Mend the pulse, and Nature will do the rest of the work. On this principle disease in general may be treated, so far as my observation has gone, with pre-eminent success. In order to appreciate fully its force, you must start with the conviction that Nature cures and not man — man removes obstructions from her path, and nothing more. This done, he awaits the onward move of the great machine, like to a great ship of gigantic weight, which, quietly held in her position at rest by a few timbers, immediately obeys the great natural law of gravitation on their removal, and glides into the water below. Did man launch this vessel, or did Nature? With as much title may the Physician or the Surgeon declare that he cured a disease. There are of course occasional exceptions to this assertion in some cases of operative Surgery. The object of treatment is to restore the pulse to its normal standard of force and frequency. Give it due force, and the heart will determine the number. As a rule, in cases of debility, it is too frequent, and frequent because the quantity of blood in the system is below the standard of health. Increase the quantity, and the pulse falls. Assure yourselves of this. Unthinking persons jump to the conclusion that brandy or other stimulants necessarily raise the pulse, but this supposes that we start with a healthy pulse at par. I am talking, not of health, but of disease. In my capacity of Examiner at the College of Surgeons, I often put this question:—If you take a pint of blood from a healthy man of 40, with a standard pulse of 68, what effect will be produced on the number of pulsations by the loss? What do you imagine is the frequent reply? 'It reduces the number to 60!' And this curious answer explains something of the phenomena of venesection so universally practised some years ago, when in reporting on a case it is said, 'His pulse rose on bleeding, and so I bled him again.' As a rule, you will find that whenever the frequency of the pulse is above the standard of health, *as an indication of debility*, a stimulant will reduce it. I tried this experiment, or rather I obtained this test, for it was not an experiment. On coming out of a Turkish bath of something more than the usual intensity of heat, my pulse had risen to 90; I drank about two ounces of wine, and my pulse fell to 75 within a few minutes."

SECT. II.—SPECIAL QUESTIONS IN MEDICINE.

(A) CONCERNING THE NERVOUS SYSTEM.

ART. 35.—*Softening of the Cerebellum.*

By Dr. E. VENTURINI.

(*Revista clin. de Bologna*, 1865; *Schmidt's Jahrbücher*, 1866.)

A shoemaker, twenty-nine years old, of melancholy and sluggish temperament, a large eater and drinker, but without sexual inclinations, had suffered for more than a year, without any known cause, from occipital pains of increasing frequency and severity. At last these pains returned almost daily, and even several times a day, the attacks lasting from half an hour to an hour, and compelling the patient to lie down, with closed eyes and head supported. In May, 1862, after much exposure to the sun, the pain became continuous, and was soon attended by fever, and by unquestionable evidence of meningitis. The pain was most severe in two points, the forehead and the occiput; and extended down the neck, which could only be moved with difficulty. The patient became sleepless, restless, and constipated, with a hot skin but normal pulse (70). On the fifth day appeared strabismus, vomiting, and hiccup, and afterwards sopor and difficult deglutition, the intelligence remaining normal. The pulse sank to 40, the trunk and extremities became icy cold, the skin unsensitive to even the strongest irritants, the head spasmodically bent forwards and to the left side. The thoracic and abdominal organs seemed unaffected, except

that the urine became at last somewhat albuminous. All remedies—blood-letting, ice, calomel, blisters, &c., &c.—were unavailing, and the patient died on the sixteenth day of the acute disease. The autopsy showed the dura mater firmly united to the skull, and the vessels distended by blood; at the base of the skull a little serum. The arachnoid, both on the convexity and at the base, was patched with purulent deposit, which was less abundant on the cerebellum. The pia mater was bright red, easily separable from the brain substance. The brain showed numerous bloody points in section, was altogether somewhat soft, and the ventricles were distended by serum. The cerebellum was less vascular on its surface, and less covered by exudation than the cerebrum. The left lobe contained in its posterior part a fluctuating translucent cyst-like spot, of the size of a cherry; its outer wall formed by transparent arachnoid, its base by softened brain substance. It contained a clear serum, and involved and entirely destroyed the ciliary body. The corresponding part of the other half of the cerebellum was normal.

This case shows the correctness of the experimental conclusion that the co-ordination of movement is disturbed by affections of the cerebellum, since the patient was not able to stand erect. Cases in which the co-ordination remains undisturbed, prove only that the still uninjured part of the cerebellum, or even the cerebrum, may govern the function; and, on the other hand, cases of disturbed co-ordination with no cerebellar lesion may be attributed to the propagation of morbid action from distant parts. The symptoms of meningitis in the case related were probably unconnected with the softening, since there was present a sufficient cause of the meningitis, in the exposure to the sun's rays. Moreover, the anatomical signs of meningitis were less apparent over the cerebellum than in other parts of the brain. No changes were discovered in the arteries, so that the softening could not be considered a necrosis, and must have been the result of a chronic inflammatory process, the cause of which remains unexplained.

ART. 36. — *On the Use of Capsicum in Delirium Tremens.*

By Dr. LYONS, Physician to the Whitworth Hospital, &c., Dublin.

(*The Medical Press and Circular*, June 20, 1866.)

The following case is related by Dr. Lyons in illustration of the efficacy of capsicum in the treatment of delirium tremens: — A tavern-waiter of chronically intemperate habits, was admitted to the Whitworth Hospital in the first stage of this morbid condition. The patient exhibited tremor in almost all the muscles of the body, chilliness, debility, sleeplessness, foul tongue, severe and general uneasiness, but there was a total absence of illusions, horrors, or delirium to any degree. He got a single dose of capsicum, twenty grains in a bolus, after which he slept and fully convalesced, the disease having been thus peremptorily cut short. Dr. Lyons remarks on the great importance of this early phase of the disease being recognized and promptly treated. The patient is in that condition in which he may be by but slight further indiscretion plunged suddenly into all the horrors and moral degradation of the state of fully developed delirium tremens, with all its consequent loss of character with others, and loss to the patient himself of that last barrier against utter abandonment, the sense of shame and remorse.

As Dr. Lyons observes, a brief but variable period often precedes the fully developed attack of delirium tremens, especially in first cases, in which the patient presents anomalous symptoms unintelligible to himself, and not always read aright by his attendant. This stage is in some patients marked by the occurrence of tremor, sleeplessness, and general distress and anxiety, without a trace of delirium. In other instances slight illusions prevail without tremor, from which the patient can by an effort arouse himself, and under strong self-directed exertions of the will even command his faculties for a time, and pursue avocations of business, to break down, it may be, hopelessly, a few hours

subsequently, if his condition is neglected, misunderstood, or mistreated. Under these circumstances the treatment by capsicum comes in very opportunely, and by its employment we may, as in the case just cited, cut short the disease, and so save the patient from the consequence of his imprudence, and possibly restore him to a reformed life. Another case well illustrates the success of this drug when opium had completely failed to alleviate the symptoms, and seemed on the contrary in many respects to aggravate the patient's condition. The case was that of an individual who had taken six grains of opium within a period of two or three days without sleep being procured, or any relief to the illusions, tremor, and distress under which the patient labored. After a twenty-grain dose of capsicum in bolus, profound and refreshing sleep for twelve hours was induced, and the patient awoke conscious and restored. In an almost precisely similar instance occurring about the same period a thirty-grain dose of the drug had to be given a second time before full relief was procured. In one or two instances of individuals of confirmed and extremely intemperate habits it was found necessary to repeat the dose some three or four times.

As to the physiological action of the remedy, Dr. Lyons's explanation is that already given in a former communication — namely, that it produces a powerful stimulant and sedative influence by its direct action on the gastric filaments of the vagi. Slight uneasiness of the stomach has been complained of in one instance only after its use, and in two instances somewhat smart purgation was noticed, but without any evidence of intestinal or other irritation.

As at present employed, the drug is administered in bolus made up of honey of roses; but Dr. Lyons suggests the feasibility of its being conveyed to the stomach in the more agreeable form of a capsule.

ART. 37.— *A Case of Atrophy or Degeneration of the Muscles of the Upper and Lower Extremities from Disease of the Spinal Cord.*

By Mr. GEORGE LEWIS COOPER, F. R. C. S., Surgeon to the Bloomsbury Dispensary.

(*The Lancet*, July 14, 1866.)

J. J.—, aged forty-one years, married, but his wife had no family; was much exposed to the weather in his daily occupation, at the same time had been a man of intemperate habits, and the subject of a long chronic cough. He was admitted under the care of the author at the Bloomsbury Dispensary, on Feb. 14, and died on the 26th. He suffered from complete paralysis of the upper and lower extremities, with a trophy of the muscles of these parts. The symptoms were slow, but progressive. They commenced in the hands and feet, and extended to the arms and legs, and ended in total paralysis. His cough was severe, with purulent expectoration, to the time of his death, which took place on Feb. 26th. The post-mortem showed much detention of the coverings of the cord from fluid, with congestion of the pia mater in the cervical region, and considerable softening in the substance of the white columns. At the commencement of the lower third in the dorsal region the central gray substance contained a large dilated vessel on each side, surrounded by extravasated blood-globules; and the extremities of the posterior cornua were highly vascular, as also in certain parts of the gray substance there were patches of extravasated blood.

ART. 38.—*Cases Illustrative of Insanity of Feeling and of Action.*

By HENRY MAUDSLEY, M.D. Lond., Physician to the West London Hospital; formerly Resident Physician of the Manchester Royal Lunatic Hospital.

(*The Lancet*, June 23, 1866.)

A married lady, aged thirty-one, who had only one child, a few months old, was four months afflicted with the strongest and most persistent suicidal impulse, without any delusion or any disorder of the intellect. After some weeks of zealous attention and anxious care from her relatives, who were all most unwilling to send her from among them, it was found absolutely necessary to place her in an asylum, her suicidal attempts were so numerous, so cunningly devised, and so desperate. On admission, she was most wretched because of her frightful impulse, and often wept bitterly, deploring piteously the great grief and trouble she was to her friends. She was quite rational, even in her horror and reprobation of the morbid propensity; and all the fault which could possibly be found with her intellect was that it was enlisted in the service of the morbid impulse. She had as complete a knowledge of the character of her insane acts as any indifferent bystander could have, but she was completely powerless to resist them. Her attempts at self-destruction were varied and unceasing. At times she would seem quite cheerful, so as to throw her attendants off their guard, and then would make with quick and sudden energy a preconcerted attempt. On one occasion she secretly tore her night-dress into strips while an attendant was close by, and was detected in the attempt to strangle herself with them. For some time she endeavored to starve herself by refusing all food, and it was necessary to feed her by means of the stomach-pump. The anxiety which she caused was almost intolerable, but no one could grieve more over her miserable state than she did herself. Sometimes she would become cheerful and seem quite well for a day or two, but would then relapse into as bad a state as ever. After she had been in the asylum for four months she appeared to be undergoing a slow and steady improvement, and it was generally thought, as it was devoutly hoped, that one had seen the last of her suicidal attempts. Watchfulness was somewhat relaxed, when one night she suddenly slipped out of a door which had carelessly been left unlocked, climbed a high garden-wall with surprising agility, and ran off to a reservoir of water, into which she threw herself headlong. She was got out before life was quite extinct, and after this all but successful attempt she never made another, but gradually regained her cheerfulness and her love of life. The family was strongly saturated with insanity. "In face of such an instance," observes Dr. Maudsley, "of uncontrollable impulse,—and it is not very singular,—what a cruel mockery to measure the lunatic's responsibility by his knowledge of right and wrong!" The attack in this case was traceable to a strong hereditary predisposition, in conjunction with physical and mental depression arising from the suckling of a child, and from frequent and long absence from home of the husband.

In another case, the morbid impulse, not less desperate, was homicidal. An old lady, aged 72, who had several members of her family insane, was afflicted with recurring paroxysms of convulsive excitement, in which she always made desperate attempts to strangle her daughter, who was very kind and attentive to her, and of whom she was very fond. Usually she sat quiet, depressed and moaning because of her condition, and apparently was so feeble as scarcely to be able to move. Suddenly she would jump up in great excitement, and shrieking out that she must do it, make a rush upon her daughter that she might strangle her. During the paroxysm she was so strong and writhed so actively that one person could not hold her; but after a few minutes she sank down quite exhausted, and, panting, would exclaim, "There, there! I told you; you

would not believe how bad I was." No one could detect any distinct delusion in her mind; the paroxysm had all the appearance of a mental convulsion; and had she unhappily succeeded in her frantic attempts, it would certainly have been impossible to say honestly that she did not know that it was wrong to strangle her daughter. In such an event, therefore, she ought legally to have been hanged, though one may doubt whether the juridical farce could have been played out, so palpably insane and irresponsible was she.

"These cases," Dr. Maudsley remarks, "are examples of uncontrollable impulse without manifest intellectual disorder; they properly belong to what might be described as the *impulsive* variety of affective insanity. It is not true, as some have said, that the morbid impulse is the entire disease: the patient's whole manner of feeling, the mode of his affection by events, is more or less perverted, and the springs of his action, therefore, are disordered; the morbid impulse is the outward symptom of a deeper-lying disease of the affective life, which is truly more dangerous than disease of the intellectual life, because its tendency is to express itself, not as intellectual derangement does in *words*, but in *actions*. Man *feels, thinks, and acts*; in other words, has *feeling, cognition, and volition*. The feelings mirror the real nature of the individual, and it is from their depths that the impulses of action come, while the function of the intellect is to guide and control. Consequently, when there is perversion of the affective life, there will be morbid feeling and morbid action, which the intellect cannot check nor control, just as, when there is disease of the spinal cord, there may be convulsive movement, of which there is consciousness, but which the will cannot restrain. The existence of dangerous insanity of action and feeling, without marked intellectual derangement, is in strict accordance not only with the physiology of the nervous centres, but also with the first principles of a sound psychology; it is established also beyond all possibility of question by the observation of actual cases of insanity.

"If we examine into the histories of the patients so afflicted, it will be found in the great majority of cases that there has been a strong hereditary predisposition to insanity, as there notably was in the two cases mentioned. And wherever such innate taint or defect of nervous element exists, we may justly presume that any great commotion in the system, whether produced by external causes, as adverse circumstances or other occasions of mental agitation, or arising from internal causes, as puberty, pregnancy, and the climacteric period, will be fraught with danger to the mental equilibrium."

ART. 39.—*On the Morbid Anatomy of the Nervous Centres in General Paralysis of the Insane.*

By MR. J. LOCKHART CLARKE, F.R.S., &c

(*The Lancet*, September 1, 1866.)

It is very important, Mr. Lockhart Clarke states, to be aware that in every healthy brain, or at least in every brain that on examination is usually considered healthy, a great number of the capillaries and small arteries are surrounded by secondary sheaths, precisely similar in all *essential* particulars to those which have been considered as morbid products in general paralysis and other cerebral affections. This anatomical fact was, he believes, first pointed out about eleven years ago by M. Robin, of Paris, and was afterwards made the subject of a paper, with engravings, in the second volume of the *Journal de Physiologie*.

Mr. Clarke's observations confirm the general correctness of this description and of the remaining statements of the author. He has found such sheaths around a variable number of blood-vessels in the brains of persons who have died without any apparent cerebral disorder, and one of these brains belonged to a fine, powerful, and healthy-looking young man, who was killed by an accident in the street.

Yet, on comparing vertical sections of the convolutions of a healthy brain with those of a brain from a person who has died of general paralysis, a striking difference between them is often observable even to the naked eye. In the latter case, a series of streaks or lines may frequently be seen radiating through the white and gray substances towards the surface; and in vertical sections of convolutions that have been hardened in chromic acid, it is very common to perceive, in the white substance especially, what seems at first sight to be a number of vertical fissures and oval slits, which, under the microscope, however, are found to contain blood-vessels surrounded by sheaths like those already described. But the sheaths in these cases are often less delicate; they are thicker, more conspicuous, and frequently darker than in the healthy brain; and sometimes, especially when the vessels are convoluted, they appear as fusiform dilatations along their course. Moreover, while in the healthy brain the granules or grains of hæmotosin are commonly scanty, and frequently absent altogether, in general paralysis they mostly abound, being scattered in some places, and collected into groups in others. So much for the state of the cerebral blood-vessels in general paresis. In the nerve-cells of the convolutions Mr. Clarke has frequently discovered certain structural changes, which, as far as he is aware, have not been mentioned by other observers. These changes consist of an increase in the number of the contained pigment-granules, which in some instances completely fill the cell. In other instances the cell loses its sharp contour, and looks like an irregular heap of particles ready to fall asunder.

A French writer, M. Joire, has stated that, during an experience of three years, he has always found in cases of general paralysis a peculiar alteration of structure in the fourth ventricle of the brain. This alteration consists of the formation of a considerable number of granulations resembling the elevations produced on the skin under the influence of cold. At an early stage of the disease the granulations are numerous and small, and suggest the idea of a surface covered with grains of sand. In older cases the granules are larger, and afford a rough sensation to the touch. They are most remarkable at the point of the calamus scriptorius.

The appearance described by M. Joire is quite familiar to Mr. Clarke, but he has not always found it in general paralysis; and it is certainly not peculiar to this disease, for he found it in cases of an entirely different nature.

ART. 40.—*The Restraining Nerves, a Contribution to Nervous Pathology.*

By Drs. A. EULENBURG and L. LANDOIS.

(*Wien. Med. Wochenschr.*, 1866; *Schmidt's Jahrbücher*, 1866.)

Although until recently only two great groups of nerves were recognized, the sensory and the motor, yet latterly a third group, the restraining nerves, has been added to the former. The elucidation of the diseases of these restraining nerves is the subject of the present paper.

Under restraining nerves are included all those that interrupt, anywhere or anyhow, irritation produced or movement originated elsewhere. Their function, therefore, consists in the staying of movement. These nerves, like all others, are liable to disorder, both in their active and in their conducting apparatus. Besides these central ganglia and fibres, the restraining system possesses also special peripheral terminal organs, to which the restraining impulse excited in the centre or in the conductor is directed, and in which it is fulfilled. The terminal organs appear to be ganglia, standing in relation to the motor apparatus.

The nature of the disorders may be either to increase or diminish the proper function, as in the nervous system elsewhere.

The range of these nerves comprise four systems, in which the restraining action has at present been clearly shown by physiology. They are:—

1. The restraining system of the heart movements (cardiac, or that of Weber and Budge).

2. The restraining system of the intestinal movements (respiratory, or Rosenthal's).

3. The restraining system of the intestinal movements (peristaltic, or Pflüger's).

4. The restraining system of the reflex movements (reflex, or Setschenow's).

Corresponding to these are restraint neuroses of the heart, the respiration, the peristaltic movements, and of reflex action.

1. The restraint neuroses of the heart.

Their physiological basis is the experiment of Weber and Budge, showing that irritation of one or both vagi diminishes or wholly arrests the heart's action.

In pathological conditions a restraint producing irritation of the vagus can be excited at many points, although a direct irritation is uncommon, and an indirect or reflex one much more frequent. The direct irritation is seldom excited in the trunk of the nerve, or in its centre in the medulla oblongata, more frequently in the peripheral ramifications of the cardiac branches in the heart itself. In central irritation the violent further symptoms that are produced obscure the characteristic signs of vagus irritation. The same occurs also in case of the so-called heart poisons, such as the salts of gallic acid, cyanide of potassium, and others; and in complicated brain disorder, such as concussion and tubercular meningitis. Neuroses of the vagus form a part of the diseases comprised under the vague term, "angina pectoris."

The physiological type of a reflex heart neurosis is furnished by the well-known crushing blow experiment of Goltz. In this the irritation proceeds from the sensory nerves of the abdominal organs. Pathological cases that admit of the same explanation are sudden deaths from concussion of the abdomen, or from the passage of a catheter. To the same category belong many cases of angina pectoris due to irritation of abdominal organs, and attended by lowering of the heart's action, anguish, syncope, cold pale skin, and fallen countenance. So also do the effects of wounds of the intestine, many cases of (especially toxic) gastritis, of nervous gastralgia with lowering of the circulation, of stoppage or intussusception of the bowels with similar symptoms, of colic from biliary or renal calculi, and of peritonitis. The slow pulse of lead colic also depends upon vagus irritation. In all such cases death ultimately depends upon paralysis of the abdominal vascular system, as Goltz, in his blow experiment, has clearly proved. Mention should further be made of certain forms of nervous shock to the heart, with diminution of its functional activity from some abnormal irritation of the genitals, as onanism and hysteria.

2. The restraint neuroses of the respiration.

The physiological facts that underlie these disorders are, not so free from doubt as those that relate to the heart; but they are, nevertheless, certain enough. They rest upon the experiments of Rosenthal, which teach that slight irritation of the superior laryngeal nerve diminishes the frequency of the inspirations; that stronger irritation entirely stops them, with relaxed diaphragm and closure of the rima glottidis; and that the strongest irritation produces contraction of the expiratory muscles. In this way cough is occasioned, and, in the higher degrees of irritation, spasmodic cough.

Rosenthal considers the superior laryngeal to be a restraining nerve for the inspiratory movements of the diaphragm. Its excitation is not centrifugal, like that of others, but centripetal; and its restraining centre is certainly not, like theirs, in the peripheral organ, but in the medulla oblongata, so that an analogous direction of action is maintained.

Pathological conditions dependent upon restraint neuroses of the laryngeal nerve are numerous. Prominent among them are the spasmodic coughs, both the hysterical (a pure neurosis) and whooping-cough, which the authors hold to be an infectious neurosis. Again, there are the attacks of cough brought on by foreign bodies and by material changes in the air-passages.

3. The restraint neuroses of the intestinal canal.

These have their physiological analogues in the stoppage of the peristaltic movement, and the relaxed state of the intestinal walls from irritation of the splanchnic nerves, as first observed by Pflüger, and since confirmed by others. The restraining irritation is probably conveyed to the plexus that is placed between the muscular layers of the intestine, and that supplies the intestine with motor fibres. The characteristic of neuroses of the splanchnic nerves is the diminution or arrest of peristaltic action, producing retarded evacuation or complete stoppage of the bowel. These symptoms, however, correspond to those of paralysis of the motor nerves. It is, therefore, difficult in concrete cases, to decide which of the two cases is in operation. Very often there is a combination of both.

An example of irritation of the splanchnic nerves is furnished by the typical symptoms of lead colic, which are pain and obstinate constipation. The first may be very well attributed, in part at least, to irritation of the splanchnic nerves, since they contain sensory fibres. This irritation may itself strengthen the restraining influence by reflex excitation. The active character and the source in irritation of the costiveness are shown by the familiar therapeutic action of antispasmodics. It would certainly have the same character if caused, as some assume, by spasm of the intestinal muscles; but in such case it could only be reflex, and excited through the attacks of colic, and it would probably only occur periodically, and not occasion constipation of so obstinate a kind.

Besides the attacks of pain, and the relief afforded by antispasmodics, the presence of irritation of the splanchnic nerves is further denoted by a similar action upon other restraining nerves, especially the vagus; from which, in half the cases of lead colic, we find marked retardation of the pulse. The distention of the abdomen, again, indicates paralysis of the intestine. The reputed spasmodic contractions are probably only consequences of the pains, and are partly only apparent, and only affect the large intestine, upon which the splanchnic nerves appear to have no restraining influence. They may also be produced secondarily through the irritation of the mechanically-distended bowel, as we see in cases of internal obstruction.

It is probable that the psychical influences that modify the intestinal movements (as in hysteric meteorismus) follow the track of the splanchnic nerves, although their centripetal course, beyond the thoracic sympathetic ganglia to the cerebro-spinal centre, is not certainly known.

4. The restraint neuroses of reflex action.

The restraining action of the will upon reflex movements, and their promotion by decapitation, have long been known. Setschenow was, however, the first to determine experimentally the reflex restraining centre in the brain of a frog, in the corpora quadrigemina, and optic lobe. An analogous office is in the highest degree probable in mankind. The diseases of this restraining apparatus may serve to explain many spasmodic conditions — such as epilepsy, chorea, tetanus, and paralysis agitans. According to Malkiewicz, we may consider the spasms produced by poisoning with strychnia, alcohol, and opium, to be results of paralysis of the reflex restraining centre, upon which all these substances exert a decidedly paralyzing influence.

ART. 41. — *On Exercise in Hysteria.*

By MR. F. C. SKEY, F.R.S., Consulting Surgeon to St. Bartholomew's Hospital.

(*Medical Times and Gazette*, September 22, 1866.)

On this subject, Mr. Skey remarks:—

“Such exercise should be active,—neither strolling nor sauntering out of doors, ‘to take the air,’ as ladies term it, nor gardening, nor lounging about,—but adopting a good brisk walk, at a pace of at least three miles an hour, *ever stopping short of fatigue*. People will often tell you they ‘take plenty of

exercise about the house, and they are on their legs during many hours of the day.' This is fatigue without exercise. What we want for health is exercise without fatigue, for fatigue is exhaustion, and it is to be obtained only on the terms which I have mentioned. I do believe there are many maladies, or at least many forms of indisposition, which, with a strong will, may be walked away, provided the exercise be taken systematically, and rendered a prominent feature in the daily treatment. The distance walked should be increased daily, and a claim made on increasing strength for increasing exertion. I doubt, whether horse exercise, however agreeable, or however stimulating both to mind and body, is equal in sanitary value to exercise on foot. In the case of horse exercise the muscular exertion to an experienced rider, male or female, is very slight, and though the distance compassed may be great, the muscular exercise, so far as it is an important element of treatment, falls short of the requirement of health. That the effort is comparatively not great is proved by the long distances ridden, and the number of hours which a delicate girl is seated on her saddle. The general concussion or shaking of the muscular frame incidental to this exercise in an unpractised rider subsides on its frequent repetition, and when the rider becomes familiar with the action of the horse, so slight an effort is requisite to maintain the equipoise of the person in motion, and so entirely do the movements of the rider respond to those of the animal ridden, that the muscular effort amounts to almost nothing. Horse exercise, therefore, cannot strengthen the muscles, because it does not sufficiently exercise them. It is an agreeable and useful recreation, but I suspect its influence as a source of health acts more beneficially on the mind than on the body. I do not wish to undervalue exercise on horseback; I only desire to meet the too general belief that horse exercise can supersede exercise on foot as a means of restoring health."

ART. 42.—On *Hysteric Affections of Joints.*

By Mr. F. C. SKEY, F.R.S., Consulting Surgeon to St. Bartholomew's Hospital.

(*Medical Times and Gazette*, September 22, 1866.)

"With respect to hysteric affections of joints, knee cases, &c.," Mr. Skey says, "they are in truth as common as Sir B. Brodie has declared them to be, and I thoroughly corroborate all he has said on the subject of this most important and interesting disease. Three-fourths of all knee cases in the upper classes of society, says this great authority, are not cases of inflammation, though they appear so. There is no organic disease whatever in the joint. They are cases of local pain, originating in impaired health. They are not amenable to treatment for inflammation and its consequences. Your liability to an error in diagnosis is just in proportion to the supposed infrequency of local nervous, as compared with vascular, derangement. The knee is by far the most frequent seat of these affections, and the cases are found among young women not in the lower class of life—but even this class is not exempt. You will find on the occasion of your first visit, the patient walking lame. This lameness has existed for several days, probably weeks, before attention has been attracted to it, and has come on very gradually. The joint is stiff—not that it won't bend, but the movement is painful. There may be some increased heat in the joint when compared with that of the opposite limb, but not much in degree. The knee is slightly swollen. If you see the case after treatment has commenced—i.e., after the repeated application of leeches, blisters, and tincture of iodine (the almost universal agent in difficulty)—the swelling will be palpable, and the outline of the joint has undergone a change. As the case progresses, the lameness increases, but the aspect of the joint remains as in the first stage—neither the swelling nor the heat increasing in the same proportion. In this condition the limb may remain for months, or even for years, subject to the same treatment,

without improvement. One feature in this case ought to have struck you as worthy of notice—viz., that so many months have passed without organic change; the joint is neither stiffer, larger, nor hotter than it was in the early stage of the treatment. I say it ought to have struck you. Perhaps it has not. The aspect of this lady is that of unhealth. She has become pale, partly from depletion, partly from loss of exercise. Her pulse is weak, her appetite bad, and catamenia, as a rule, defective. You fear to give tonics and alcohol, lest you aggravate the supposed local inflammation.

"Having exhausted the negatives in treatment, you now venture on an onward step, and you give bitter infusions, gentian, cascarrilla, with ammonia and ether. But you are still behind the necessities of the case; you have adopted from the beginning a false diagnosis, and the difficulty is how to get back to the right groove. There is only one course: begin afresh, and treat your case on a different principle; convince yourself that nerves may go wrong as well as arteries and capillaries, and as you treat excessive action, rightly or wrongly, in the blood-vessels by local depletion, so apply such remedies as check excessive action of nerves in the form of opium, belladonna, chloroform, &c. Build up the health by increasing the force of the circulation. The agents are a thoroughly nutritious diet, wine frequently in small quantities, tincture of bark, iron, fresh sea-air, change of locality and associations, agreeable mental occupation. Assure your patient she has no real disease, but the semblance only. Leave the functions of the alimentary canal to take care of themselves. The constipation incidental to a low, innutritious diet and an inactive life will subside under the influence of a nutritious one; improved health will restore its functions. There is no real harm in a day's constipation; it is sometimes a good. At all events leave the bowels alone. With regard to the joint, rub in some blue ointment and extract of opium, in the proportion of one-third of the latter, and roll it firmly with a flannel bandage. Encourage moderate daily exercise on a level ground, on a carpet, or on a lawn. If the case is chronic, don't be disappointed if the progress be yet protracted to weeks. The pain and the stiffness may subside very slowly by virtue of their long possession by the joint; but you are in the right path, and rely upon it your patient's recovery will justify the sound principle of your treatment."

ART. 43.—A Case of Tetanoid Convulsions overcome for a time by Application of Ice to the Spine.

By Dr. J. W. OGLE, Assistant Physician and Lecturer on Medical Pathology, St. George's Hospital.

(*Edinburgh Medical Journal*, July, 1866.)

The patient, Henry F., aged two years, was a stout, well-made child, of a family free from consumption or other special taint, and had cut fourteen teeth. He had been ailing, with want of appetite and dulness of manner, for eight or ten days, but had not complained of any pain in any part. On 15th of February he had a powder given to him of some kind or other, obtained at the druggist's. On the following night he slept well, but about nine A.M. on the 16th he began to be attacked with convulsions, and about eleven o'clock he was brought to the hospital in a state of general convulsions, but affected chiefly on the right side of the body. At this time he was placed in a hot bath. Dr. Ogle saw him at half-past twelve o'clock, when he was still convulsed; but then it was chiefly the left side that was affected—the left arm, hand, and leg, and the muscles of the face being violently convulsed, in a clonic manner. The eyelids were widely separated, and the eyeballs quite fixed, and, to a slight degree, rolling from side to side. The pupils were larger than natural, but of equal size and unaffected by light. The tongue, which could not well be seen owing to fixing of the jaws, appeared to be clean. On touching the surfaces of the

eyes or edges of their lids, but little reflex action could be produced. The surface of the body was much above the natural temperature, and the color of the face was slightly, but manifestly, livid. The respiration was slow, and attended by a degree of moaning. Dr. Ogle ordered an enema with castor-oil and turpentine to be at once given, and the gums to be examined for the purpose of seeing if they required lancing. It was, however, found impossible to open the mouth. He then ordered an ice-bag to be applied and kept in close contact with the back the entire length of the spine. At two o'clock the convulsions were much the same, the right side being now mainly affected, the hands being clenched, and the teeth firmly closed. The surface was warm; the head was frequently rolled from side to side on the pillow. The ice application was continued, and gradually the convulsions abated, and the child was considered by the apothecary well enough to be allowed to go home in the evening. The gums, &c., were found to be not swollen.

On the following day, as he was evidently not so well, the child was again brought to the hospital, under Dr. Pitman's care, and gray powder was given at bedtime. Antimony and salines were also given. On the day after (the 18th) one convulsive seizure took place, affecting both sides of the body, and then the child appeared to be better, no feverish symptoms remaining. It was only noticed that the child had somewhat of a wild, rather staring expression of countenance, the pupils being rather dilated. Nothing further occurred until the morning of the 19th, when convulsions recurred, in which the child died.

On post-mortem examination, the brain was found much and universally congested, and the gray substance dark in color. The pia mater was universally injected, and many miliary scrofulous deposits were found attached to its inner surface, especially in the great longitudinal fissure, and on the velum interpositum, and on the upper surface of the cerebellum. A small quantity of recent fibrine existed beneath the arachnoid at the inner side of each Sylvian fissure, the neighborhood of the optic commissure and pons Varolii being almost free. The lungs contained about five or six more miliary scrofulous deposits; the heart, liver, and kidneys were natural; the spleen also contained a few scrofulous deposits.

In commenting upon this case, Dr. Ogle drew attention to several points appearing to deserve notice. In the first place, the *spasm* which existed was such that, at the outset, seemed to have quite the character of tetanus, or of the convulsions produced by strychnia; and suspicion of the latter was the more strong at first when it was made known that the child had had some kind of powder exhibited previous to the setting in of convulsions; but as it was found on investigation that the convulsions did not occur until several hours afterwards, this suspicion fell to the ground, especially when it proved that the spasm was, to a considerable extent, *unilateral*. This unilateral character of the spasm was also most interesting, considering that, as it ultimately proved, the spasm was connected with a general state of meningitis. At first, owing to the absence of fever, the suddenness of attack, &c., Dr. Ogle thought the case was one of mere congestion of the nervous centres; and indeed was even, after all, inclined to suppose that the early convulsions may have coincided with a simple state of congestion prior to the effusion or production of lymph, which, as it was subsequently ascertained, occurred within the cranium. If so, of course the formation of this lymph (considering how speedily death took place after the first symptoms set in) must have been very rapid; but Dr. Ogle pointed out that a very few hours may suffice for the formation of such lymph and so-termed exudation. The substantial relief from the ice application was not a little interesting, and speculation upon the probability of a greater and more permanent benefit from a longer application of the ice could not be resisted. A noticeable symptom was the *lividity* of the face—one evidently connected with some pulmonary congestion. This symptom might have been thought to be the result of interference with the movements of the chest-walls by reason of spasm of the thoracic muscles; but as it was associated with a *slowness*, and at the same time *regularity*, of respiration, the juster inference was, that it was the result of some intracranial disturbance. The *dilated* state

of the pupils Dr. Ogle was more inclined to connect with the general strumous condition of the body than with the cerebral effusion, &c.

ART. 44. — *On the Relation of Chorea to Rheumatism.*

By M. ROGER, Physician to the Hospital for Infants, Paris.

(*Journal of Practical Medicine and Surgery*, 1866.)

Chorea, rheumatism, and heart affections, M. Roger observes in a clinical lecture on the pathology of chorea, belong more especially to the second period of childhood. These diseases seldom begin before the third or fourth year of life, and culminate between the ages of seven and fourteen. The latter age coinciding with puberty, Bouteille conceived that this period of transition of the system exercised an active influence on the development of the symptoms. This, however, is far from being demonstrated, and M. Roger contends that the occurrence of chorea at this stage of adolescence is merely the result of the frequent coincidence of rheumatism at the same age.

As a proof of the neurotic nature of chorea, writers have adduced the fact that it is more commonly observed in females; that in both sexes the disease is often the result of irritation; that it is not hereditary in the same degree as rheumatism; and that it often is induced by fright or sudden mental emotion, causes incapable of giving rise to rheumatism. The facts brought forward in support of this line of argument are doubtless striking and singular, but they are not in accordance with truth. If these extraordinary cases be carefully sifted, rheumatism will be found to have preceded the alleged nervous attack. A little girl was recently brought into hospital for the treatment of choreic symptoms, said to have originated in a sudden fright. On inquiry it was distinctly ascertained that the chorea had been preceded at a week's interval by undoubted rheumatism. With regard to chorea consequent on imitation, either the symptoms are feigned, or are a secondary manifestation of a rheumatic affection. Neither M. Blache nor M. Sée nor M. Roger has ever met with a genuine case of chorea caused by imitation. Bricheteau, it is true, published nine instances which he referred to this influence; but six of the subjects were affected with hysteria, a morbid condition in which the patient's truthfulness is deserving of very slender confidence, and in the three remaining cases M. Roger inclines to the belief that M. Bricheteau was unaccountably deluded.

Mental agency should, therefore, be erased from the list of the causes of chorea. Indeed, the whole structure of the etiology of the disease should be razed to the ground, leaving but one single determining influence — viz., rheumatism.

Daily experience confirms in the most unmistakable manner the truth of the surmise, that the co-existence of chorea and rheumatism is not a mere chance coincidence, but that both affections are connected with each other in the closest manner by a reciprocal relation of cause and effect, and by some intimate and unvarying affinity. The parents of choreic children, when questioned on the subject, acknowledge, in one-half of the cases, that rheumatism preceded the spasmodic manifestation. If rheumatism has not already occurred, it will assuredly soon follow, the interval seldom exceeding a month. Chorea sometimes supervenes at the conclusion of, or during convalescence from, rheumatic fever, and sometimes in the period of status of the latter.

The identity of chorea with rheumatism may be inferred from another circumstance — namely, the similarity of the complications in both affections. Cerebral chorea is not less frequent than cerebral rheumatism, and the very common coincidence of heart disease in one-fourth, at least, of the cases of chorea, visibly demonstrates the true nature of the latter.

In some instances an attack of chorea alternates with an attack of rheumatism, as if the morbid condition merely changed its form.

From these motives, which are only the leading arguments which might be

brought forward, we may, M. Roger thinks, hold ourselves justified in asserting that chorea is almost invariably identical in nature with rheumatism, and hence that it must, like rheumatism, exercise an important influence in the production of diseases of the heart.

ART. 45.—*On the Diagnosis of Symptomatic and Essential Paralysis of the Sixth Pair of Nerves by means of the Ophthalmoscope.*

By M. BOUCHUT.

(*L'Union Médicale*, July 3, 1866; *Medical Press and Circular*, September 12, 1866.)

M. Bouchut reports several cases of paralysis of the sixth pair of nerves, with especial reference to the ophthalmoscopic appearances observed in them; and he states that henceforth, in paralysis of the external motor nerve of the eye, we must add the use of the ophthalmoscope to the study of the antecedents and the history, as an essential aid in the detection of the disease. For by its means we shall often be enabled to detect the organic nature of the lesion by the discovery of a morbid condition of the fundus oculi. The paralysis may be *spontaneous* (Valleix); *rheumatismal*, produced by cold (Badin d'Hurtelise); it may depend on *constitutional syphilis* (Bégran); *albuminuria* (Landouzy); *diphtheria* or *chlorosis*, plumbism, or a *fault of accommodation*, or *optic neuritis*, produced by excessive use of the eyes. It may also be referable to *chronic meningitis*, produced by a wound over the eyebrow, or by a fall on the head; or, finally, it may be due to localized chronic encephalitis or tumor of the brain.

In many cases the evidence furnished by the patients, and the symptoms which they present, suffice for a diagnosis, but in those cases in which there is a suspicion that the cause of the disease is seated in the nerves or nervous centres, the ophthalmoscope alone can determine the question with certainty. In short, if there exists a serous or granular infiltration of the papilla or retina, in consequence of either general or partial congestion, venous thrombosis, or retinal hæmorrhage, we may be satisfied that there has been either *optic neuritis*, or localized *chronic encephalitis*, *chronic meningitis*, or *tumor of the brain*.

The lesions of the eye do not, it is true, always indicate the nature of the cerebral affection; but what is of chief importance is, that their demonstration, nevertheless, proves the organic nature of the paralysis, and this is undoubtedly a great advance.

ART. 46.—*On Sclerosis of the Brain and Spinal Marrow.*

By Dr. W. ZENKER.

(*Zeits. für Rationelle Medicin and Brit. and For. Med.-Chir. Review.*)

W. Zenker, of Göttingen, contributes observations made by him during some months past on this subject. The microscopical investigation of sclerosed spots in the brain, made in a fresh condition, gave the following results:—Connective tissue-fibre existed in abundance, containing many interspersed nuclei, whilst no trace of brain-elements and nerve-fibres could be discovered. Moreover, amylaceous corpuscles, recognized as such by their reaction with iodine and concentrated sulphuric acid, were found scattered in great abundance and lying about in heaps in the field of vision, in size from that of a connective tissue-nucleus to that of a frog's blood-corpuscle, as round bright bodies, in which here and there a nucleus and also a concentric arrangement were distinguishable. As it seemed to be necessary to make a further investigation with finer instruments, some large sclerosed spots of the white substance of the cerebral hemisphere were hardened—a part in most highly rectified alcohol, and another part in a solution of two parts chromic acid to 1000 of water.

After fourteen days the further examination was made, and the following results obtained:—

1. In the chromic acid preparation, sufficiently fine sections, made with a razor, showed a fine connective tissue, consisting of fibres. These appeared to be in part arranged as a network, in the meshes of which appeared the form-elements to be mentioned later. In thicker sections there was found only an apparently finely-granulated mass, in which it appeared that many fibres were cut obliquely or across. This partly net-shaped arrangement of the fibres was not probably an artificial production by the coagulating influence of the chromic acid solution upon an albuminous fluid, because, in certain spots, the fibres united into thick bundles passed away parallel among each other. The same fibres, but less easily, could be shown in the alcohol preparations. After the addition of acetic acid the fibrous arrangement disappeared altogether.

2. In the alcohol preparations, but not in those made with chromic acid, were found those larger and smaller concentric corpuscles which, in a fresh condition, the iodine sulphuric acid reaction exhibited.

3. In the chromic acid preparation there were found, moreover, in the meshes in question, very numerous oval, somewhat flattened, or egg-shaped and incurved nuclei. There could not positively be shown around the nuclei cell-processes and cell-membrane, although in carmine preparations the appearance of spindle-shaped, star-shaped, or anastomosing cells was often very evident. This was sometimes produced by the nuclei lying imbedded in the meshes of the fibrous bands crossing each other. In no way could anything but nuclei be isolated. Fine sections of the alcohol preparation, moreover, were treated with the ammoniacal carmine solution, then washed out with a saturated solution of acetic acid in distilled water and concentrated glycerine; then again, the covering glass being frequently lifted, it was washed with water, and finally the preparation examined in a glycerine solution. By this method the nuclei described were found to be dyed red.

4. Also, by the treatment just mentioned, the capillary vessels appeared as distinct strings furnished with very numerous nuclei in their coats. As to the capillary vessels themselves, many of them showed considerable fatty degeneration of their coats, which was very beautifully seen by treating the alcohol or chromic acid preparations with diluted soda solution.

5. Independently of the sclerosed parts, the rest of the brain showed no essential change. Ganglia-cells, however, were not unfrequently met with in the vicinity of the sclerosed spots. These were decidedly fatty degenerations, for they were almost completely untransparent, and filled with closely-packed fatty granules; so also were their processes.

From all this taken together, it results that, viewed microscopically, it was a pathological new formation of a tolerably distinct fibrous connective tissue with overgrowth of its nuclei, and of the nuclei of the capillary vessels with a probably secondary fatty degeneration of the coats of the latter. The ganglia-cells may then have been changed by pressure of the callous connective tissue.

The microscopical examination of the spinal cord, preserved in alcohol, gave the following results:—In the cervical region, sections of the posterior columns made with a razor, treated with an acetic acid solution, showed the same characteristics as did the sclerosed spots of the brain—a network of fibrous bands (here even more pronounced than in the brain); abundantly interspersed nuclei; concentric corpuscles; fatty degenerate capillaries—and in the same proportions as in the brain.

Cross sections of the lateral columns showed neither connective tissue-fibre with nuclei, nor fatty degenerate capillaries, but, on the other hand, a large number of normal nerve-fibres, in some parts single concentric, and here and there brown stellate corpuscles resembling pigment cells.

ART. 47.—*On late Rigidity in Hemiplegia.*

By M. CH. BOUCHARD.

(Archives Générales de Médecine, Septembre, 1866.)

In a memoir on secondary degeneration of the spinal marrow, M. Bouchard maintains that it is an error to attribute late rigidity to chronic irritation of the brain arising from the cicatrix of the primitive lesion, or to the progressive course of supposed encephalitis. The cause of the rigidity, he believes, is to be sought in the spinal cord. It cannot be assigned to fatty, granular degeneration of the nerve tubes, a change which is not followed by any characteristic symptom. Moreover, prior to the rigidity commencing, the nerve tubes injured in the encephalon have been destroyed in their entire length. But the nerve tubes of encephalic origin are mingled in the spinal marrow with other tubes which arise in the gray matter of the cord. These medullary tubes are buried in the midst of a tissue which, a considerable time after the occurrence of apoplectic lesions of the brain, is the seat of a very abundant conjunctive proliferation. To the irritation of the medullary tubes by this neoplasm—that is, to this secondary sclerosis—M. Bouchard attributes the late rigidity in hemiplegia.

ART. 48.—*Cure of Masturbation by Amputation of the Clitoris and Nymphæ.*

By Professor G. BRAUN.

(Wien. Med. Wochenschr., 1866; Schmidt's Jahrbücher, 1866.)

Professor Braun records another case of the cure of masturbation and its consequences by this operation.

The patient was an unmarried woman of the better class, twenty-four years old, who had been abandoned to masturbation in an excessive degree since the age of fifteen years, and who had evidently suffered from it both in physique and in intellect. She had been four or five years under medical treatment. Upon examination the clitoris appeared normal, but became erect upon the slightest touch, so that it could be felt as an elevation the size of a goose-quill. Contact with the clitoris excited rhythmical contractions of the abdominal muscles, nates, and labia, from which, in about twenty seconds, an albuminous fluid flowed over the posterior commissure. The præputium clitoridis was lax and deeply pigmented; the nymphæ projected an inch beyond the labia; the hymen was uninjured and very extensible. The uterus appeared normal.

The author performed amputation of the clitoris and nymphæ with the galvano-caustic loop. The first application left the stump of the clitoris still projecting, and the apparatus was applied a second time to remove this completely. The operation lasted scarcely a minute, and was neither attended nor followed by bleeding or any other accident. The parts removed were in a seemingly normal condition.

The healing progressed favorably. The eschar fell on the seventh day, and there was some difficulty in preventing union of the opposed surfaces. After three weeks there was a smooth cicatrix. The base of the clitoris could still be felt, but contact with it produced no irritation nor reflex movements. The sleep was already much more tranquil and undisturbed, and the masturbation was no more practised. At the same time the general bodily condition was better, and an increasing interest was taken in outward affairs.

The author advises amputation of the clitoris and nymphæ in cases of habitual onanism in women, when not only physical but also psychical dis-

orders are produced, and when ordinary remedies have been used without benefit. He thinks the galvano-caustic loop the best method of operating, since its use is not attended by hæmorrhage.

ART. 49. — *On a Case of Inability to Talk, to Write, or to Read Correctly after Convulsive Attacks — subsequently Choreic Movements.*

By Dr. HUGHLINGS JACKSON, Assistant Physician to the Hospital for the Epileptic and Paralyzed, and to the London Hospital.

(*British Medical Journal*, 1866.)

This case derives its chief interest from the fact that the patient, who, though a hospital patient, was well educated, had lost a good situation because, after certain convulsive attacks, he became unable to spell, and was thus unable to perform the duties of clerk in an important Government office.

There was no evidence to point to the side of the brain diseased. Besides the convulsive seizures, the patient has had attacks of a very curious sort. "They have," Dr. Hughlings Jackson says, "resemblance to choreal movements; and thus to my thinking they have much importance, as showing, with the other defects I am about to mention, the continuity of movement, actions, talking, and those conditions of nerve-tissue which do not necessarily result in outward movement; *e.g.*, subjective talking. It is important to add, that this patient had had rheumatic fever thirteen years ago. I think it most probable that the nutrition of parts of his hemispheres has been interfered with by plugging up small vessels."

After referring to the researches of Banks, Russell, and Sanders, Dr. Hughlings Jackson continues: —

"I met a patient in the street a few weeks after my visit to him just mentioned. He was then, to superficial appearance, as well as ever. I observed that he spoke quite well, and this throughout rather a long conversation. If he had made the slightest mistake of any sort, I should have caught it at once. I congratulated him upon being able to speak well again. He replied, however, that he was often at a loss for a word; and his father told me that his son frequently made mistakes in names. On my remarking that I had not detected any defect of speech, the patient said that his speech was imperfect most 'when anything came on him suddenly,' or when he was not thinking particularly of what he was saying. His greatest trouble, however, was in writing. He had no difficulty in penmanship; on the contrary, it was beautiful. His trouble was that he could not readily find the proper words, and those he wrote he often spelled incorrectly. He showed me something he had just written; namely, words on a plan. For 'box' he had written 'gox'; for 'silver,' 'cilver'; and again I saw that after crossing out this mistake, he had written 'silves.' I was extremely interested in his mistakes, for there was mind enough to give them relation to proper speaking and writing. I asked him to collect for me all the mistakes he had made in writing, and in a week he brought me several letters. He said he could generally manage to write a tolerably correct letter if he made a copy first and then looked over it.

"The words in the square brackets are corrections written by the patient; those in the curved brackets are written by myself.

"I am glad to say that I am going on all right, and I home [hope] to continue to do so. I galy [daly] take a long walk, and do not find the configue [fatigue] as I formerly did. I am aglie aggisue agligere (obliged?) to stop and think what ("what" is crossed out) how spell (crossed out) the wors [words] are spelt. I can ver ger generly (altered to generally) go on very well in may makeing the second copy."

"He brought me, also, a bundle of letters written before he was ill; I could find no mistakes of any kind in them."

Dr. Hughlings Jackson then gives the second copy referred to, but it also contains words spelled wrongly. After giving other letters, Dr. Hughlings Jackson gives an extract copied from a book, in which extract there are scarcely any mistakes. It as follows:—

“The place of our retreat was in a little neighborhood consisting of farmers who tilled their our [own] grounds, and were equal strangers to opulence and poverty. As they had almost all the convenience[s] of life within themselves, they seldom visited towns or cities in search of superfluities. Remote from the polite, they still retain[ed] the primeval simplicity of manners; and frugal by habit, they scarcely knew that temperance was a virtue. They wrought with cheerfulness on days of labor.”

“The patient then read aloud the passage just given. He read very slowly, and made, as nearly as I could estimate from the sound, the following mistakes, many of which he corrected. Red, round, hand, for neighborhood; standers for strangers; opulus for opulence; possery, popery, for poverty; seppertition, sepperist, sepperit, sepperistis—abortive efforts to say superfluities (he could not say it after me until I said it very carefully and slowly for him); remake, remoke, for remote; polites for polite; primavel for primeval; mimplicity for simplicity; menners for manners; fruel for frugal; themperance for temperance; cheerlessness for cheerfulness; lady for labor.

“It may be that such mistakes as ‘polites,’ ‘fruel,’ are due to carelessness; but he pronounced these mistakes clearly, and corrected them sometimes. Nor were the mistakes due to a permanent difficulty in articulation, He could say any word I asked him to say. He could repeat without the slightest slip the following difficult lines.

‘Around the rugged rocks the ragged rascal ran the rural race.’

‘Up a high hill he heaved a huge round stone.’

“The following was dictated from an article in the *Saturday Review*. His mistakes are in brackets.

“The man [mand] whose [woos] mind [minds] is entirely taken up [out] with small [sall] details [detales], fancies [sances] he has a right to sneer [seen] at every one gifted [gisted] with less [lest] minute knowledge [nowledge]. Because [Begause, and again Begause] he can [gan] grease [crease] the wheels [weels] and tighten [bighten] the screws [schrees] of machinery [ma-sheenary] he fancies [sances] himself an authority on the laws [laus] of motion [mosien].”

“I then asked him to spell the word whose, aspirating it strongly. He wrote ‘hose.’ Small, he spelled ‘sall,’ as in the text; but quickly remarked, ‘No, that’s not it; that’s sall.’ He then hesitatingly spelled it rightly. Sneer he spelled snier; because, begause; and laws, lass. I said no. He then spelled ‘lause.’ I again said no. He said, interrogatively, ‘There is a laws spelled l a s s?’ I said, ‘That is lass, not laws.’ He replied, ‘So it is;’ but still could not spell the word correctly.

“The reader will observe how much worse the spelling is in the preceding specimen than in what the patient copied from the test-types. While he was copying, I noticed that he kept referring to the original for nearly every letter. He transferred each particle quickly, so that it lost nothing in carriage. He did not trust it to his memory for a moment. To use a simile, it passed from his eye to his fingers without any adulteration from his own damaged organization. The patient brought me the following since the previous part of this paper appeared. I give it in his spelling:—

“The great fault in me sempt (crossed out) seems to be that I cannot speel when writing, in fact (crossed out in pencil) at some times I cannot at first recollect how to put down the Letter L. I have often been bothered as to how to make the note¹ (letter) until I but it down in my memory by spelling my

¹ “The word note was crossed out, and the word letter substituted; but I observed that throughout our conversation on the statement he had written out, he used the word note for letter. Neither his father nor myself could get him out of the use of the word. He stared at our objections vacantly.”

own name. (His name begins with the letter L.) Sometimes I am bothered to recollect various letters, and then I run the A B C in my head until I cum (crossed out in pencil) come up to the note (letter?) I want, and then I can bring it out to m'—

"My patient tells me that he frequently cannot write a letter until 'I have got it before my eye.' When he said this, he put his hand before him. He could make the motions for using a pen; but he had lost the power of reproducing completely the impulses for the particular actions he had learned for the writing of particular words, and had, as it were, to submit to a new, although a transitory education when copying.¹ There seems a difficulty here in reproducing images in his various sense apparatus and their cerebral connections.

"It must be observed that these last-mentioned trials are rather specimens of what he could do by care and by attending to what he was doing, and not of what he did say when talking loosely. As he still said that he had made mistakes at home, I asked him to collect them for me. The following is the result:—

"Intending to say the following words:—I sayed, for case, clase; for sister, sisper; for stomach, spomach; for that, sthat; for never learnt, never lant, never tant; for to wear, to pear; for plate, s-s-s-plate; for three, th-th-th-ree; for pig, prig; for bedstead, beckstead; for Emma, Enna; for go to bed, go to ded; for reid [read], leid; for coat, sloat; for turn his toes out, turn his nose out; for later in the day, laer in the day; for answer as a tung [tongue], answer as a tooth; for how is your tooth? how is your hand—your tongue—your feet? for mistake or two, mistalabal; for to such extent, to such an expemut; for going to wear, going to vell; for sticking plaster, spicking plaster; for sight, fight; for blood, brod; for beat, bread; for going right, going rike; for you need not wet it, you need not wat it; for you have a little cold, you have a little clean; for the sun is at its height, the sun is at the moon; for you want some more to eat with them, you want some more meat to drink with them; for meat, bread; for knife, eggs; for wall, floor; for walk a mile, take a mile; for of meat, of mead; for not been my doing, not been ny doing; for nise [nice], nite; for tight, trite; for of a boy, of a dog; for alf [half], a sleap [sleep], alf a sleass; for travel, traverk; for he is nocked [knocked] up, he is locked up; for to school on Saturday, to school on Skatterdlay; for people coming from church, people coming from slearch; for one stair, one floor; for all the week, all the sweet; for you had better save them, you had better ceave them; or it's all mussle, it all mujile; for custard, tustard; for shows as bright, showes as shite; for table, tadle; for the fastest train, the largest train."

"I called on him one day, and asked him to spell several words. Some he spelled by ear. For plough he gave plow; for cough, coff; for dough, first dough, then dowe; for daily, daly; for generally, he began several times j, and when I told him it began by g, he could not proceed; for laugh he gave lauf (he pronounced the word something like this). For picturesque, at the first trial, picthureess; at the second trial, pictureessk; at the third trial, he said, 'No, that is not right,' and deliberately spelled 'esque.'"

¹ Professor Bain says, (*Fortnightly Review*, February 1st, 1866):—"It must be considered as almost beyond a doubt, that the renewed feeling occupies the very same parts, and in the same manner as the original feeling, and in no other parts, nor in any other manner, than can be assigned." Again, he says:—"For every act of memory, every exercise of bodily aptitude, every habit, recollection, train of ideas, there is a specific grouping or co-ordination, of sensations and movements, by virtue of specific growths in the cell junctions."

ART. 50.—*Defects of Smell in Epileptiform Seizures, in Mental Affections, &c.*

By J. HUGHLINGS JACKSON, M.D., Assistant Physician to the Hospital for Epilepsy and Paralysis, and to the London Hospital.

(*The Lancet*, June 16, 1866.)

In a report of some remarks by Dr. Hughlings Jackson on Defects of Smell in diseases of the Nervous System, the writer urges that these symptoms are quite as significant as, although less important than, loss or defect of sight. Before we quote from the present article, we may make an extract from one in the *Ophthalmic Review*, April, 1866, to which article we alluded in our last vol. p. 139. Dr. Hughlings Jackson writes:—

"Smell is not unfrequently lost when there is amaurosis, and I cannot but urge that inquiries should always be made as to defects of this sense when sight is affected. In one of the two cases of loss of smell in which I have had an autopsy, the disease has been of the hemisphere, at a distance from the optic thalamus; but I have not yet had a satisfactory case completed by an autopsy.

"When smell is lost, the patient generally says that his taste is defective too. We must then be particular in stating whether our patient can tell the bitterness of quinine or the sweetness of sugar, when we find that he does not know the flavor of such things as oil of peppermint or of cinnamon when placed on his tongue.

"In all cases of amaurosis—certainly in all cases of amaurosis with hemiplegia or epileptiform seizures—we ought to investigate the conditions of the other special senses, with the object of obtaining positive and negative evidence as to the seat of damage, which does, or may, give rise to defect of one or more of them."

In the *Lancet*, Dr. Hughlings Jackson, after speaking of cases in which subjective sensations of smell occur with epileptiform seizures, and with symptoms of mental disorder, remarks:—

"Defects of smell and defects of mind may seem to be things which can have little to do with one another. But the olfactory bulb has, at the least, a geographical relation to a great part of what is believed to be an important division—the anterior lobe of the cerebrum—of the chief organ of intellectual life. This relation is quite as important in one way as that of the auditory nucleus to the centres for the chief functions of animal life is in another. Perhaps the mere geographical relationship of one olfactory bulb (possibly it might be better to say of the olfactory convolution) to the mass of the anterior lobe of the brain may not strike most people—especially those who think that the brain is a double organ—as a fact sufficiently important to encourage us to spend much time in searching for evidence of any kind of relationship betwixt smell and intellect.

"In thinking, as physiologists, chiefly on the common relations of the various organs of sense (with their perceptive centres) to the hemisphere, we must, as physicians, pay equal attention to the wide differences in their geographical position. Although a much inferior sense, the physiological relationship of the centre for smell to the hemisphere is quite as significant as that of the centre for hearing, while its geographical relations are much more important. Still, clinical medicine shows that we must be very careful how we interpret the series of symptoms with which loss or defect of the special senses occurs, by reasoning either generally from the basis of a recognition of their relations as similar functional centres, or more narrowly from a consideration of the contiguity of their centres with other parts. Thus, in spite of the common relationship of the perceptive centres to the cerebrum, loss of hearing is rare, and loss of sight not unfrequent, in cases of disease of the hemisphere. Then as

regards contiguity, the auditory nucleus is, Lockhart Clarke says, actually continuous with that of the vagus; and we know that experimental injury betwixt the origin of the auditory nerves (see particularly Roberts' *On Urinary Diseases*) produces temporary glycosuria. Yet we hear nothing of disturbances of respiration nor of sugar in the urine in any cases of sudden deafness; possibly, however, the sugar is not sought for soon after the deafness comes on."

Now Dr. Hughlings Jackson thinks that, besides the physiological relation of the olfactory nervous system to the hemisphere—the nervous system of the nervous system,—and besides the geographical relations of the olfactory bulb and the anterior lobe as two masses of tissue, there is another relation which these two divisions of the nervous system may be considered to have to one another—viz., by their arterial supply. A single artery—the anterior cerebral—supplies part of the bulb, a great number of convolutions not only of the anterior lobe, but a great part of the length of the inner surface of the hemisphere, and, what it is very important to bear in mind, the great commissure, the corpus callosum.

Dr. Hughlings Jackson states by saying that his experience of cases of insanity is so limited that he has much difficulty in giving the proper value to the facts he has already collected, especially as they were, superficially at least, in apparent contradiction to one another. He is anxious to learn from psychologists what has been done in the matter, and especially if defects or loss of smell are met with in puerperal mania, which form of mania recurs under the same conditions as occasionally give rise to hemiplegia and chorea, both which diseases are due, the former sometimes, and as Dr. Hughlings Jackson thinks, the latter generally, to plugging of branches of the cerebral arteries.

ART. 51.—*The Form of Amaurosis occurring in Locomotor Ataxy and in Disease of the Hemisphere.*

By J. HUGHLINGS JACKSON, M.D., Assistant Physician to the Hospital for the Epileptic and Paralyzed, and to the London Hospital.

(*Medical Times and Gazette*, September 1, 1866.)

In this paper Dr. Hughlings Jackson suggests that three forms of disease, or rather three sets of symptoms, should be considered in reference to sex, both as to physiological peculiarities, habits, and vices. These diseases are general paralysis, locomotor ataxy, and certain forms of amaurosis; the different phenomena depending, the author hints, on one condition of nerve tissue. Therefore, the object is to merge these entities under one general pathological condition. We shall, however, extract only what relates to locomotor ataxy, and chiefly those parts which refer to the ophthalmological aspect of this disease or set of symptoms.

"In considering the causes of atrophy of the optic nerves," Dr. Hughlings Jackson writes, "we ought to keep continually in mind that it is not always (1) the result of a gradual and slow process, but frequently (2) the remains of an acute one. If Mr. Wordsworth's researches [to which in reference to so-called tobacco amaurosis, the author particularly refers] had no greater merit than that of putting this prominently before us, they would have great value. As I have just remarked, there are at least two kinds of atrophy of the optic nerve, or at least two sets of ophthalmoscopic appearances. Perhaps, as a physician, I should speak more safely if I were to say that there are but two marked kinds in patients who come under our care for diseases of the nervous system *par excellence*. These two forms of atrophy are in general alike, but they present particular differences. There is one in which the disc simply whitens, and often changes slowly; and another in which its edge is ragged and irregular, or in which it gradually merges into red fundus. There is often

much pigment around it, and its arteries are generally very small and its veins comparatively large.

"I have traced the second kind of atrophy many times from the well-known condition called neuritis. (Swollen disc, arteries lost, veins large, and scattered effusions of blood.) This kind of atrophy is the one found in the amaurosis which occurs with hemiplegia, and with epileptiform convulsions (generally unilateral). It is the kind of amaurosis which follows disease of the hemisphere. Now, my experience of cases of amaurosis with locomotor ataxy is not large enough to enable me to speak with certainty of its exact ophthalmoscopic appearances. In the case to be alluded to, in reference to the pains in the legs, and in which, at the autopsy, there was found disease of the posterior columns of the cord, the discs were white, but well-margined, and their vessels of fair size. I will mention a third case in association, although it belongs to a different category; I mention it chiefly for contrast. A patient consulted me for difficulty in walking and defect in sight. He had a swollen optic disc, the arteries were lost in the discs, and blood was effused about them. He could then, however, see fairly, and could read. When his eyes were shut, he could stand, and even walk, but had great difficulty in doing so. He afterwards became almost blind (the discs whitening), and then, although he retained great power in his legs, could not walk a step, nor, indeed, stand without assistance. I confess I thought this to be, if not a pure case of locomotor ataxy, at least one resembling it; but at the autopsy I found a tumor at the base of the brain, pressing on the left crus cerebri, left side of the pons and crus cerebelli. The corresponding lobe of the cerebellum was smaller. This case is a valuable one, in showing the use of the ophthalmoscope in diseases of the nervous system, and points strongly to the importance of making a precise record of the ophthalmoscopic appearance in this class of cases, even when the amaurosis is but a subordinate symptom.

"One of these forms of amaurosis might be called spinal, the other cerebral.

"Looking at the notes of the cases I had under my observation while clinical assistant at Moorfields, after a wider experience of diseases of the nervous system, I cannot help suggesting that it is more than probable that many of the cases of atrophy of the optic nerve in males which I saw at that hospital, especially those in which there were pains and numbness in the legs, were cases of commencing locomotor ataxy, or were loosely allied to that disease.

"It may be justly remarked that the term 'numbness and pain in the legs' is to the last degree vague. But in writing generally of many cases, I must use a general expression. The pains, when particularly described in my notes, are recorded as 'gnawing,' 'shooting,' &c., such as any physician who has paid attention to progressive locomotor ataxy will recognize as being frequently met with in that disease. In taking notes of cases for scientific purposes, it is most important to get the patient to describe these subjective symptoms as carefully as he can. When they are faithfully described, it is of less importance how they are named, but to name them as 'rheumatic' without description would lead to error. The use of a loose name necessitates careful descriptions in actual cases. It will be observed that these pains are noted to have occurred in but one of the female patients. A few months ago I made a post-mortem examination on the body of a male patient who died amaurotic, and who during life had had symptoms of ataxy. This patient used to describe his pains very vividly. He said they were gnawing, and 'like a dog biting him suddenly.' I found disease of the posterior columns¹ in the dorsal region of the cord. This case shows, I think, the relationship of 'uncomplicated' amaurosis to locomotor ataxy. The patient's sight failed gradually, and was lost in two years. Twelve months later pains in the legs began, and it was several years after that before any notable difficulty in walking occurred. The optic discs in this patient were *well-margined*, and the vessels were of good size.

"I repeat that in speaking of pains in the legs accompanying amaurosis, I

¹ The specimen has since been carefully examined by Lockhart Clarke. See *Lancet*, June 10, 1865.

mean pains of a particular character, viz., like those accompanying locomotor ataxy. Now, I by no means wish to assert that these pains with amaurosis should lead us to diagnose commencing progressive ataxy, but they are certainly often definite enough to command particular attention in any methodical investigation of amaurosis, and quite definite enough to be admitted to the class of symptoms to be investigated as regards sex, tobacco, &c. In diseases of which the real pathology is so much disputed as amaurosis and locomotor ataxy, we can do little more than group our cases from clinical symptoms. This is certainly not a desirable kind of order, but it is the only one, I submit, that is at present practicable; and if not scientifically exact, it, at all events, will render what one has to say intelligible, and will render a better one possible. Whether, then, there be a real relation betwixt what we call uncomplicated amaurosis and locomotor ataxy, there is at least a clinical gradation in the symptoms from one to the other, case by case. And it is this gradation which shows, I submit, the scientific importance of these pains. They are a link betwixt 'uncomplicated amaurosis' and locomotor ataxy.

"Thus we have (1) amaurosis without pains in the legs; (2) amaurosis with pains in the legs only; (3) amaurosis with pains in the legs, and difficulty in co-ordinating the movements of the legs; (4) pains in the legs, and difficulty in co-ordinating the legs without amaurosis; (5) amaurosis without pains in the legs, and with difficulty of co-ordination. I could now put five patients in a row showing the above sets of symptoms. I speak of the kind of disc I saw in the patient who died with disease of the posterior columns. I have now under my care at the London Hospital a case which shows the connection of amaurosis with pains in the legs, and as these pains are like those in the locomotor ataxy, I may say the connection of amaurosis with one, at least, of the symptoms of this disease. The patient, a man forty-five years of age, came to me for symptoms of debility and nervousness of no very definite character. Finding that he was blind, I took the opportunity of investigating the causes and relations of the amaurosis. His sight began slowly to fail ten years ago, and it was four years before he was absolutely blind as he now is. The optic discs are quite white, but they are well-margined; the arteries are small, and the veins also are rather small. This patient has no difficulty in walking, and finds his way from my room to the chair for the ophthalmoscope in the next room easily and quickly without any help. He had never had any difficulty of this kind except when he had had pains in his legs, and then only at the moment when they seized him. He had therefore never had the essential symptom of ataxy, but still the pains were sufficiently characteristic to show some relation betwixt the two diseases. He had had them for three years before the blindness began, and for seven years afterwards. They were severe shooting in both legs, coming on suddenly. He remarked spontaneously, 'I can compare them to nothing but a flash of lightning.' I may just add that he had not smoked much—never more than half an ounce a week—he had been temperate, and had not, he assured me, been addicted to sexual excesses, marital or otherwise."

ART. 52.—*Syphilitic Disease of the Arteries of the Brain, with Remarks on the Treatment of Syphilitic Diseases of the Nervous System.*

By J. HUGHLINGS JACKSON, M.D., Assistant Physician to the London Hospital, and to the Hospital for Epilepsy and Paralysis.

(*The Lancet*, October 27, 1866.)

After speaking of the researches of Wilks and Bristowe, Zambaco and Lacharrière, on syphilitic disease of the cerebral arteries, Dr. Hughlings Jackson makes the following remarks on treatment of syphilitic nervous affections as reported in the *Mirror of the Lancet*:—

Whilst admitting that nerve tissue might directly suffer from syphilis, he himself knew nothing of the syphilitic affections of the nervous system other-

wise than as arising from disease of its blood-vessels and of its pia mater. In short, syphilitic diseases of the nervous system were rather diseases of connective tissue in or about nervous organs. He remarks on the vast importance for treatment of a knowledge that syphilis might occasionally be the cause of nervous symptoms, and on how much we, as members of a utilitarian as well as of a scientific profession, are indebted to such men as Reade (of Belfast), Todd, Wilks, Bristowe, Hutchinson, and Russell (of Birmingham). He adds, however, that he feared we frequently saw syphilitic affections of the nervous system, and especially epileptiform seizures, too late for very successful treatment. When a man has a unilateral convulsion — and convulsions due to syphilis are generally unilateral — in the midst of ordinary health, it is a sign, Dr. Hughlings Jackson thinks, that there has been disease in the head for some time before it began, as it were, “to live an outward life” in occasional convulsive attacks. Iodide of potassium would be about as likely to absorb “tubercle” as to absorb some of the so-called “deposits” from syphilis. And as a matter of fact, Dr. Jackson has not found the treatment of *chronic* cases of syphilitic disease of the nervous system to be so satisfactory as many would, *a priori*, think it would be. He believes, too, that iodide of potassium not unfrequently gets more credit than is its due when administered for some of these syphilitic diseases of the nervous system. Patients the subject of what has been called “syphilitic epilepsy” are liable, like other epileptic patients, to have attacks of convulsions in batches, and in the intervals of the seizures they may be almost comatose. Now, Dr. Jackson thinks it is not exact to suppose when a patient recovers from such a condition after taking the iodide of potassium, that he recovers *because* he took it. As a rule, the patient will get over status epilepticus, whether he takes the iodide or not, and whether the convulsive attacks be dependent on limited organic disease from syphilis or on any other kind of limited organic disease of the hemisphere. The following case is then related:

James P. — was admitted on a Tuesday, and died on the Friday following. The only time when Dr. Hughlings Jackson saw him was in the afternoon of the day of admission. The patient was apparently quite sensible, and answered questions rationally, but seemed surly and did not like to talk. He was hemiplegic on the left side. No paralysis of the orbicularis palpebrarum could be detected, but there was a little drawing of the mouth to the right side, and the left arm and leg were paralyzed. No loss of sensation could be made out. Unfortunately very little history was obtainable from him, and very little could be afterwards obtained from his wife. He had had sore-throat five years before and a scaly rash since, and had been in the hospital twice before for “rheumatism.” The man seemed all along to be chiefly dull, and lay quiet; but one of his fellow-patients said he was “curious” in his talk, and instanced that he had said he would like to have “a pound of sausages and two pints of beer all chopped up together.” His death took place rather unexpectedly.

No disease was found except in the cranium. The carotid arteries at each side were, from the point at which they were cut to the giving off of the anterior and middle cerebral arteries, much thickened; and this thickening extended about a quarter of an inch up each vessel in a sort of node, ending abruptly. The right middle cerebral artery was much narrowed at one point, and was blocked up, but the coagulum seemed to be recent; the calibre of the left, although apparently the vessel was quite as much diseased outside, was not diminished, and there was no coagulum of any sort in it. Soon after its commencement, the left anterior cerebral artery was swollen into a node the size of a large pea. Both vertebral arteries were thickened and nodose, and the channel of the left one was narrowed at one point, and at this point the artery was fastened to the medulla oblongata by a sort of stuff which looked like dirty putty. The basilar artery was generally thickened, but was not patchy; the posterior communicating arteries appeared to be healthy. As there was a good deal of softening of both posterior lobes, the posterior cerebral arteries were carefully examined, and each soon after its origin was found to have become suddenly nodose, and of about the size of a small horse-bean. The right was firmly blocked near, and the other within half an inch of, its origin. The convolutions in the neighborhood of the corpora striata were carefully examined.

On the left side no softening nor any abnormal state could be detected, and the corpus striatum itself was quite sound. On the right side the corpus striatum was found to be much softened, but was only diffident in a small part externally, and the convolutions on both sides of the Sylvian fissure were much softened. The softening of the convolutions was not well defined. The softening of the posterior lobes seemed to be about equal. In this instance no microscopical examination was made; but in the other cases Dr. Hughlings Jackson had seen the material matting together the arteries, pia mater, and nerves, was found to consist chiefly of granules and fat, and in some parts a few fibre-cells were found.

ART. 53.—*Aphasia Associated with Right Hemiplegia.*

By EDWARD LONG FOX, M.D., Physician to the Bristol Royal Infirmary.

(*The Lancet*, August 11, 1866.)

The following cases, although very briefly narrated, are of great interest as bearing on the disputed questions of the localization of faculties. The case of Wm. D. is especially interesting in reference to the ejaculations these speechless patients uttered:—

Mary M—, aged thirteen, was in her usual health at the beginning of May. She was sent by her mother to a shop, and on her way fell down insensible. She was found to be hemiplegic on the right side, and to have lost all articulate speech.

On admission into the Bristol Royal Infirmary, June 5th, 1866, the right hemiplegia was almost complete. She could not lift the right arm at all, nor flex the fingers; and she could scarcely stand. She could not walk at all. Slight facial paralysis of right side. No paralysis of tongue. Organs of special sense unaffected. Pupils natural. Sensation good everywhere. There was no loss of the general faculty of speech, as she could express herself fairly well by signs, and nodded or shook the head rightly. She evidently understood all that was said to her, and the expression of the face was very bright. But she could not pronounce anything except "ta" and "to," and had lost all power of saying another syllable. She had never suffered from rheumatism; had no valvular disease of the heart; and was a pale, cachectic-looking child.

June 30th.—She had so far recovered as to be able to walk about and to move the arm well, but she could not clasp with the fingers. She had learned several words, as "yes," "no," "tea," "bun," &c. She seemed very bright, and read to herself with evident pleasure.

Two or three days after this her mother secretly brought her some cheese and port wine. She became intoxicated, fell into a succession of convulsive attacks, and sank during the night.

We were only able to examine the head:—Much black discoloration along the fissure of Sylvius on the left side. Beneath this region was an old clot, partially discolored, with creamy brain-tissue all round it, the softening extending slightly into the anterior lobe, but mostly into the middle lobe, and implicating the corpus striatum, except the upper layer of it. This clot was evidently the result of a ruptured left middle cerebral artery. Just at the commencement of the fissure of Sylvius the artery was enlarged to the size of a small haricot bean, and this enlarged portion had given way. No plug was found in any of the vessels. The posterior portion of the third left frontal convolution was discolored for about one-fifth of an inch in depth, and sensibly softened over a space the size of a small walnut. The immediate cause of death was the rupture of a vessel in the left lateral ventricle, on the upper and outer side of it, just above the corpus striatum. The whole of this ventricle was full of clot, which filled all the cornua, and had found its way to a small extent into the right lateral ventricle. The rest of the brain was healthy. Considering the amount of lesion in the corpus striatum, it seems extraordinary that she should have recovered the use of the limbs so well.

Wm. D—, aged forty-seven; a great drunkard. Right hemiplegia, with total loss of speech, except that he utters the words, "yes," "no," "pooh," "Lord-a-mercy." These he uses indifferently to express everything; and when he is in a passion he will ejaculate "Lord-a-mercy," evidently with the idea that he is using an oath. He can to some extent express himself by signs; as when he can escape from his wife's surveillance he is able to get spirits from a public-house, and pay for them without any assistance. He can write his own name, and understand all that goes on. He has been quite three years in this state; and although the hemiplegia is much diminished, the loss of speech is the same.

John S—, aged thirty-five. At ten years old he had right hemiplegia, and loss of speech for three months. For six months afterwards he had to learn to speak like a little child. He has now contractions of the right wrist.

Although both these cases are still living, it is probable that they have suffered from a similar lesion to that which caused the symptoms in the first patient, especially when we view the symptoms in connection with the case quoted by S. Van der Kolk (New Syd. Soc., vol. iv., p. 165, note.) "In consequence of a wound, a long splinter from the os frontis above the left eye compressed the anterior part of the left hemisphere, subsequently causing loss of speech; which faculty was completely regained after the removal of the fragment by the trepan."

Some very striking cases, mentioned by Abercrombie and Andral, show at least the connection between the symptoms of loss of speech and lesion of some portion of the left frontal convolutions.

"Not one," Dr. Fox remarks, "can study Broca's views, nor the very excellent papers which Dr. Hughlings Jackson has written on this subject, without acknowledging that there is considerable evidence in favor of the seat of the faculty of articulate speech being located in the posterior portion of the third left frontal convolution. Dr. Hughlings Jackson's papers are written with so much scientific accuracy and with so much candor and fairness, that they are models of the result of medical observation; and in a late paper he modifies his adhesion to Broca's views. But, as far as the subject has been investigated at present, I think it has only been proved that this portion of the brain is one of the seats of this faculty, and not the only seat."

In confirmation of this view, Dr. Fox mentions eleven cases recorded by Andral and others.

ART. 54.—*Aphasia, with Right Hemiplegia. Lesion in the Island of Reil, extending into the External Frontal Convolution.*

By WILLIAM R. SANDERS, M.D., F.R.C.P.E., Physician to the Royal Infirmary of Edinburgh; Lecturer on Physiology and on Clinical Medicine.

(*The Lancet*, June 16, 1866.)

In this communication Dr. Sanders brings forward the case of a woman who became hemiplegic and speechless in August, 1865, and who died April, 1866. She never uttered a single word from the time of her seizure to her death. Her intelligence was not materially impaired; Dr. Sanders's impression being that her mind retained its essential powers of thinking, feeling, and willing. She could not write. She could make herself understood by her husband; and the ward-nurses said they actually quarrelled.

At the post-mortem examination two softened patches were found in the left hemisphere, and these Dr. Sanders carefully describes.

But the principal lesion was found in the base of the brain, consisting of a softening of the external and anterior portion of the left island of Reil, which extended for a short way into the interior surface of the adjoining external or inferior frontal convolution, and also penetrated in depth to the outer part of the corpus striatum, which likewise exhibited a small softening at the posterior

part of its gray matter. These important lesions were carefully examined, in conjunction with Wm. Turner, M.B., demonstrator of anatomy in the University of Edinburgh, who reported as follows:—

"When the tip of the left temporo-sphenoidal lobe is raised, an alteration in the normal appearance of the island of Reil is seen in its antero-external part. Instead of bulging in a well-defined convex manner, it presents a deep sinking or excavation in the seat of its two most anterior and external gyri; and the surfaces of these gyri have in part lost their normal gray appearance, presenting a distinctly yellow hue. The yellow discoloration extends from the surface of these gyri of the island outwards along the bottom of the groove which separates them from the inferior frontal gyrus, and is continued for about half an inch outwards and three quarters of an inch from behind forwards along the under surface of that convolution. It does not extend to the outer surface. The depressed and discolored portions of the island, as well as the affected part of the frontal gyrus, feel soft and fluctuating to the touch. There is no erosion nor solution of continuity on the surface of the affected convolution, which remains quite smooth. Owing to the destruction of the convolutions of the island of Reil, already described, a much larger portion of the under surface of the inferior frontal gyrus is exposed, when the temporo-sphenoidal lobe is drawn on one side, than is normal. After the brain had been immersed in spirit for some hours, the characteristic appearance already described was still preserved.

"On a section being carefully made from the island inwards towards the corpus striatum, the softening, which presented an eroded and pultaceous appearance, was found to have penetrated into the anterior, outer, and inferior part of the corpus striatum. On horizontal section, a second small isolated softening was found at the posterior part of the corpus striatum. In the softened portions, the nerve-structures were destroyed, and replaced by free granules and granular cells."

Dr. Sanders then remarks:—

"The dissection in this case partly agrees and partly differs from Mr. Broca's views, which localize the lesion of aphasia in the posterior part of the inferior left frontal convolution. This convolution was over a small space distinctly softened and diseased; but, on the other hand, the chief lesion was undoubtedly seated in the gyri of the island of Reil; and when it is considered that the speech was not merely impaired, but entirely lost, the question is suggested, whether, supposing that there is a distinct localization of the lesion in aphasia, the island of Reil may not be the spot. The island is a well defined lobule of the brain—it is even named the central lobe by recent authors, from being the centre round which the principal convolutions of the cerebrum are arranged. The whole question of localization, however, is still open.

"In addition to the case now recorded, I have, since the case of aphasia presenting Broca's lesion, which was published in the *Edinburgh Medical Journal* in March last (p. 811), been obligingly asked by my medical friends to see five cases of aphasia (two under Dr. James Struthers, of Leith, one under Benjamin Bell, Esq., F.R.C.S.E., and two under Dr. M'Gregor, of Tranent); and I have received particulars of other three cases. In all these eight the aphasia was associated with hemiplegia, and always of the right side of the body. Indeed, the conjunction of aphasia with *right* hemiplegia, and not with left, first pointed out by Dax, rediscovered by Broca, and clearly evinced in the remarkable collection of cases published by Dr. Hughlings Jackson in his excellent paper in the *London Hospital Reports* (vol. i. 1864), in which this subject was first prominently brought before the profession in this country, becomes more completely established the more the disease is studied. Exceptional cases will doubtless occur; it will be of immense consequence that they be accurately observed and described.

Since writing the above, I have found in Dr. Hughlings Jackson's paper, published in the April number of the *Ophthalmic Review* (at p. 50, top), notice of three cases of aphasia and right hemiplegia in which the lesion extended to and involved the island of Reil. I would also refer to Dr. J. W. Ogle's collection of cases, especially Nos. 179, 215, 248, and 257, in the *Medico-Chirurgical Review* for 1865.

ART. 55. — *On Neuralgia of the Fifth Nerve belonging to the period of Bodily Development.*

By FRANCIS E. ANSTIE, M.D. Lond., F.R.C.P., Senior Assistant
Physician to the Westminster Hospital.

(*The Lancet*, July 14, 1866.)

On this subject Dr. Anstie remarks: "The period of bodily development includes, of course, the whole time from birth up to the twenty-fifth year (roughly speaking.) But that portion of it which is antecedent to puberty presents few or no cases of facial nerve-pains in which the state of the nerve is the central pathological fact. From the moment when puberty arrives, however, all is changed. In the stir and tumult which pervade the organism, and especially in the enormous diversion of its nutritive and formative *nîsus* to the development of the generative organs and the sexual instincts, the delicate apparatus of the co-ordinating nervous centres is apt to be overwhelmed (or rather left behind) in the race of development. The most frequent of the painful affections of the fifth nerve which are traceable to this source is *migraine*, or sick headache. Its clinical history is as follows:—Under the pressure of the bodily influences already referred to, and often of a further debility induced by a precocious straining of the mental powers, the patient begins to suffer headaches after any unusual fatigue or excitement, sometimes without any distinct and obvious cause of this kind. The unilateral character of the pain is not always detected at first; but as the attacks increase in severity it becomes obvious that the pain is limited to the track of the supra-orbital, and sometimes the ocular, branches of the ophthalmic division of the fifth nerve of one side. In very rare cases, however, as with any other form of trifacial neuralgia, the nerves of both sides are affected. If the pain lasts for any considerable length of time, nausea, and at length vomiting, are induced. This is followed at the moment by an increase in the severity of pain; but from this point the violence of the affection usually so far relaxes that the patient soon succeeds in falling asleep. [The history of the attacks distinctly negatives the idea that the vomiting is ordinarily remedial. This symptom merely indicates the point of lowest depression of nervous power; but as the power of digestion is almost entirely suspended during the attack, it may sometimes happen that a quantity of food which has been incautiously taken, lying as it does undigested in the stomach, may of itself greatly aggravate the headache by irritation transmitted to the medulla oblongata. In such a case vomiting may produce direct relief to the nerve-pain.] When the patient awakes from sleep, the active pain is gone. But it is a common occurrence, indeed it always happens when the pain has lasted a considerable time, that a *tender* condition of the superficial parts remains for some hours, or even a day or two. This tenderness is diffused over a considerable surface, and is nowhere so exquisite as that which is observed in the "painful points" of Valleix, which are developed in the severer neuralgia. Sick-headache is not uncommonly ushered in by sighing, yawning, and *shuddering*—symptoms which remind us of the prodromata of some graver nervous affections, with which I shall hereafter indicate its probable relationship.

"Another kind of headache which infests the period of bodily development is that which is known as the *clavus hystericus* (*clavus* from the fact that the pain is at once very severe, and is limited to one or two small definite points, as though a *nail* or nails had been driven into the skull). As Valleix has well shown, the points to which the pain is confined in these cases correspond with one or more of the localities which are the *foci* of severest pain and tenderness in all forms of trifacial nerve-pain. But for the greater limitation of the area of the nerve-pain, there would be scarcely any important distinction between *clavus* and *migraine*; for the former, when the attack is unusually severe and

prolonged, generally culminates in a fit of vomiting, just like that of ordinary sick-headache, and is followed by a superficial tenderness, only more limited in extent than the soreness which follows sick headache. The adjective *hystericus* is of course an inadequate and improper definition of the circumstances under which this form of trifacial nerve-pain arises. The truth is that the subjects of *clavus* are usually females who are passing through the trying period of life between puberty and the complete development of the organism; but there is no evidence to show that disorders of the uterine functions give any special bias towards this complaint. Both migraine and *clavus* are met with frequently enough in persons who have long passed the period of bodily development. But the important circumstance to observe is, that the tendency to these forms of nerve-pain nearly always shows itself during that period.

"It seems superfluous to insert a caution to the effect that true migraine has no connection with ordinary 'bilious' headache, which is the mere result of disordered digestion. Yet the carelessness with which the term 'sick headache' is applied now to the one and now to the other affection, by some writers, leads me to notice the danger of this mistake."

(B) CONCERNING THE RESPIRATORY SYSTEM.

ART. 56. — *On Bloodletting in the Treatment of Pneumonia.*

By Dr. ALEXANDER SMITH, Surgeon Royal Artillery.

(*Edinburgh Medical Journal*, July, 1865.)

In a valuable paper recording the results of observation of one hundred and eight cases of pneumonia, treated in the hospital of the 47th Regiment, at various stations in Canada, and of whom three died, Dr. Smith remarks that his experience of the effects of bloodletting convinced him that its employment at the outset of pneumonia in its sthenic form was attended with most beneficial results, not only in shortening the duration of the disease, and rendering convalescence satisfactory, but also in giving an amount of certainty and uniformity to the results of treatment which could not be attained by the employment of any other combination of remedies. As to its power in "cutting short" the disease—if by this term is meant to be expressed the probability of its at once arresting, and as it were stamping it out—Dr. Smith's experience would go to show that its employment is not attended with any such result. In proof of this, he mentions that so soon as he became aware of the import of the condition of the respiration, which is first observed at the outset of pneumonia, he attempted by early bleeding, before the disease had advanced beyond the stage indicated by obscurity of the respiratory sounds, to arrest it in that of engorgement. In no case, however, was this practice attended with the result desired; but on the contrary, in every attack so treated, instead of being altogether prevented, small crepitation seemed to undergo an earlier development. The subsequent progress of all such cases early bled was otherwise invariably satisfactory.

Dr. Smith, however, still feels inclined to consider this question in the light of an open one, and to believe, until distinct proof to the contrary shall have been produced, that bloodletting practised soon after the occurrence of the rigor may possibly at once arrest the disease. He is the more inclined to this view of the matter, because Dr. Jameson, his colleague in the 47th Regiment, informed him, that in one case which he bled freely immediately on the man's admission into hospital, and within a very short time of the occurrence of an attack of rigor, which from all the attending circumstances, and happening as it did at a time when pneumonia was prevalent among the men of the corps, appeared to be the initial symptom of an attack of that disease, no further disposition followed. This may or may not have been a case which, if it had not been so treated, would have proved one of pneumonia; but still Dr. Smith believes the fact is worth recording.

Dr. Smith thinks that it was by limiting the stage to which the diseased action advanced, rather than by affecting the extent of lung to be attacked, that bloodletting manifested its power to shorten the duration of the disease. That it also influenced the amount of lung attacked, however, he thinks, appears evident, from what was found to have happened in some of the fatal cases, neither of which were bled at the outset of the disease. With regard to the extent of lung affected in cases early bled, it may be said, that it amounted, as a general rule, to from one-half to three-fourths; and that in respect of the part first attacked, in no instance did the disease begin at the apex.

After having most carefully watched the whole course of the disease in attacks where bloodletting was employed at the outset, Dr. Smith feels satisfied that in no case so treated did red hepatization take place; both the exaggerated respiratory sound heard near the acme of engorgement, as well as the absence of evidence of the entrance of air, excepting during forced respiration, which frequently for a few hours preceded the setting in of small crepitation, having been unconnected with any degree of actual consolidation. Neither were the bronchitic sonorous râles occasionally audible along with large and small crepitation near the middle of the lung, in the course of some of the cases, confounded with the blowing sound of bronchial respiration, heard when true hepatization was present. The facts of greatest importance, however, noticed with reference to the employment of bloodletting, were the rapidity with which such cases recovered in proportion to the severity of the attacks, and the uniformity of the results observed on a review of the whole cases so treated, as compared with that obtained in the milder and more asthenic attacks in which bloodletting was not made use of. This is shown by tabular statements given in the paper.

A further consideration, possessing also considerable practical importance, is the fact, that in cases not bled it was found, Dr. Smith states, that there existed, throughout the greater part of the attack, a danger that a fresh accession of fever, and a rapid advance to hepatization, might not only suddenly occur, but do so at a period of the disease when good results from bloodletting, if it should then be employed, were but little likely to be obtained. Dr. Smith, however, wishes it to be distinctly understood, that whilst advocating the employment of bloodletting at the outset of sthenic cases of pneumonia, such as are seen in young and previously healthy soldiers, and whilst maintaining also from actual observation that the good results which follow such a mode of treatment surpass in a marked degree those obtained from any other combination of remedies, he does not in any way call in question the value of that mode of treatment termed "restorative," as applied to a particular class of cases, and which has been employed with so much success in the management of the pneumonia seen in civil hospitals in Britain.

ART. 57.—*On Anthracosis, or Coal-Miners' Phthisis.*

By DR. J. WARBURTON BEGBIE, F.R.C.P. Edin.

(*The Glasgow Medical Journal*, September, 1866.)

In an examination of this subject, Dr. Begbie has endeavored to signalize the chief features, whether of pathological or etiological interest. As a result of his examination he is disposed to conclude—

1. That anthracosis is primarily determined by the inhalation of carbonaceous particles.
2. That in the instance of the coal-miner, while capable of being produced in various ways, the chief exciting cause is the inhalation of the very impure atmosphere occasioned by the burning of oil-lamps. It would appear that the long-continued inhalation of a very *dusty* atmosphere may, under certain circumstances, engender the same condition.
3. That when once the deposition of carbon in the pulmonary structure has

taken place to any extent, and the true function of respiration is thereby interfered with, there occurs a tendency which gradually increases to the arrestment of carbon or carbonaceous pigment in the lungs, and its removal there from the blood.

4. That the presence of black pigmentary deposits in the bronchial glands, the pleura, and less frequently the peritoneum and mesenteric glands, makes it probable that there may, in cases of anthracosis, be some peculiar process of carbonaceous absorption as well as deposition of carbon.

5. That in this view, the opinion as to the black pulmonary deposit being the result of transformation in hæmatin, although supported by so distinguished an observer as Virchow, cannot be considered as so readily reconcilable with what we know of the natural history, and especially the etiology, of the disease.

ART. 58.—On Myeloid Transformation of the Lung.

By T. C. ALLBUTT, M.B., Physician to the Leeds Fever Hospital.

(*The Medical Press and Circular*, July 11, 1866.)

The following, perhaps unique, case of complete myeloid transformation of the lung occurred under the author's care in the Leeds Infirmary:—

During life there were found complete dulness and stillness all over the left chest, and absence of vocal sounds and fremitus; or at least these, from the feebleness of the subject and the distance of the voice, were undefinable. The heart was seen to beat under the right nipple. Cough was almost absent, and there was no great dyspnoea. The intercostal spaces were not bulged, and the circumference of the left chest only exceeded that of the right by three-quarters of an inch. There was some degree of emaciation and of hectic fever present. The duration of the disease was uncertain, but certainly of eighteen months' standing. There was no marked cancerous cachexia of appearance, and the progress seemed to have been slow. The boy was fourteen years of age. He remained in the house about eight weeks in the autumn of 1865, and, becoming more and more exhausted and short of breath, he left the hospital for home, where he died in a few weeks. Mr. Jessop performed the post-mortem examination for the author. The whole of the left chest was found filled with solid substance, thrusting the heart out of sight on the right side, and pushing down the diaphragm to the left kidney. The solid contents were of two kinds. The upper portion which appeared on opening the chest was of a dense fibrous character, of a greenish-white color, and presented the form of an enlarged lung. Below this, occupying the whole back of the chest, and in contact with the costal pleura, was a considerable quantity of true myeloid matter, soft and sanguineous. Both substances contained myriads of little bones, varying from the size of a pea to that of the thumb. These being densely packed in the upper and firmer mass, made it almost impenetrable. The origin of the disease was probably in the chest-walls, and had thence impregnated the lung. No attachment could be found, however, nor disease of ribs or spine. The friends of the lad stated that he had been short-winded since his earliest age, and had presented some prominence of the chest for many years.

ART. 59.—*On the Influence of Age in determining the Liability to Asthma.*

By HYDE SALTER, M.D., F.R.S., Physician to Charing Cross Hospital.

(*The Lancet*, July 28, 1866.)

The age of the patient is not, Dr. Hyde Salter states, important, and has very little direct instructiveness. His cases merely show that asthma comes under the physician's care at every period of life, and that the largest number of cases are in what may be called middle life — from twenty to fifty. There are more asthmatics of ages between thirty and forty than any other equal period. On each side of these ages — before thirty and after forty — the numbers fall.

A much more interesting and important point is the time of life at which asthma makes its appearance. On this point Dr. Hyde Salter's cases show the following facts:— That, dividing life into equal intervals of ten years, a larger number of cases take their commencement in the first ten years of life than in any subsequent equal period; that childhood is of all ages the most prolific of asthma. After childhood there is a sudden fall; during adolescence much fewer cases declare themselves. But from this there is a gradual rise up to forty. Thus, the number of cases in which the disease commenced between ten and twenty was 20; between twenty and thirty, 23; and between thirty and forty, 27. From forty to seventy, again, there is a regular but rapid fall. Thus the number of cases commencing between forty and fifty was 16; between fifty and sixty, 9; and between sixty and seventy, 3. We should naturally expect that the time of life at which asthma was apt to show itself would be closely connected with the causation of the disease; and so Dr. Hyde Salter thinks it is. For he arrives, from the foregoing figures, at the following conclusions:—

"1st. That the time of life the most prolific of asthma is the time of measles, of whooping-cough, and of infantile bronchitis.

"2d. That adolescence furnishes comparatively few cases, because the diseases of childhood, so apt to lay the foundation of it, are over, while the wear and tear and hardships of life, and the deterioration of the body produced by them and by time, have not commenced.

"3d. That from this time exposure and hardship and time begin to tell, and show their influence by the increasing asthma-rate reaching its maximum at middle-life. But, it may be asked, why should the tendency for asthma to show itself increase up to forty, and then diminish? Why should it not go on increasing as life advances, especially as we know that the tendency of catarrhal and other agencies to produce inflammatory conditions of the respiratory mucous membrane does increase up to the very end of life?

"This brings me," Dr. Hyde Salter continues, "to the fourth point, which is this: That this diminishing probability of asthma making its first appearance after middle life shows that it does not follow the same law as bronchitis, and that there is something necessary for its development besides vascular change in the bronchial tubes and other organic lung mischief. This other thing is doubtless the asthmatic tendency or idiosyncrasy; and the way in which the necessity of the asthmatic idiosyncrasy for the production of the disease accounts for the diminishing probability, as life advances, of its making its first appearance is this: As every year is added, an individual is decreasingly likely to be exposed for the first time to the exciting cause of the disease; if any one has the predisposing cause — the asthmatic tendency — within him, it is not likely he will travel far through life without the exciting cause presenting itself and bringing the disease into activity, and those only can reach advanced life without becoming asthmatic in whom either the asthmatic tendency is *nil* or feeble, or who have fortuitously escaped circumstances calculated to call it into activity. Such a number must, according to the doctrine of chances, be a constantly decreasing series. The diminishing number of cases is, in fact, an exact measure of the diminishing probability of a person

with the asthmatic tendency postponing his first exposure to exciting causes to so late a date.

"There is nothing in relation to asthma about which more misconception prevails than the time of life at which it is apt to occur. It is commonly thought to be a disease of old age, and we frequently hear the expression, 'as asthmatic as an old man.' I believe there are two reasons for this error. One, that asthma, if it is not lost comparatively early in life, or if it comes on in middle life, is generally never lost, and therefore exists in old age; and thus many old people are truly asthmatic simply because they have never ceased to be so. The other reason is, that chronic bronchitis—undoubtedly a disease of advanced life—is often mistaken for asthma; an old man coughs and wheezes and spits, and is said to have the asthma; but he has really chronic bronchitis; and although the bronchitis may have a little bronchial spasm super-added to it, or even a great deal, still it is essentially and substantively bronchitis.

"The error of imagining that asthma is not a disease of early life is one into which, as I have shown, even medical authorities have fallen. But my cases furnish abundant evidence that asthma may, and frequently does, occur very early in life; that there is no time of life that is free from it; and that it may occur even in infancy."

ART. 60. — *The Teleology of Pulmonary Consumption.*

By DR. J. HENRY BENNET.

(*The Lancet*, September 21, 1866.)

Teleological views of disease are sufficiently rare at the present day to deserve especial note when met with. Dr. Henry Bennet, although anxiously desirous to promulgate the belief that "pulmonary consumption is a curable disease—indeed, in its early stages a very curable disease—under proper treatment," does not seek to hide the intrinsic gravity of the malady, but sets this forth in the following manner, appending also certain teleological considerations:—

"In the investigation of the nature and causes of pulmonary consumption, and of tubercular disease in general, we may perhaps go a step further. I firmly believe that the appearance of tubercular deposit ought to be looked upon as the evidence and result of a serious, perhaps final, diminution of vital or nervous energy. In other words, it may be considered the evidence of incipient decay of the organization from defective vital or nervous power. Thus tuberculization, especially when seated in the lungs, is simply a mode of dying. Unless the vitality of the individual can be roused, the morbid condition will surely progress, and life will be extinguished sooner or later, according to the state of the constitution of the patient, and of the consequent type of the disease.

"The very essence of life is the organic vitality, variable in different species, variable in different individuals, with which each organism, vegetable or animal, merges into being and develops itself. It is owing to inherent organic vitality that the medium duration of life in the oak, the ash, the fir, is different, as it is also different in the whale, the elephant, the horse, the dog, and in man himself. The medium duration of life in each species is reached in the organisms that are created under favorable conditions, with unimpaired organic vitality, and that pursue their existence under conditions favorable to life. On the other hand, this medium duration is not reached by those individuals that are created under unfavorable conditions, with defective vitality, or in whom originally sound vitality is modified, diminished, destroyed by the unfavorable conditions in which their existence is carried on.

"In such considerations, in my opinion, must we seek for the real explanation of tubercular disease, and especially of pulmonary tuberculization; as also for

a key to the types under which the disease presents itself, and to the results of treatment. They include, of course, hereditary predisposition.

"Viewed in this light, so far from pulmonary consumption being a dire inexplicable pestilence, striking indiscriminately the young and the old, it becomes one of the provisions by which Providence has secured the integrity of the human race. If those who are, from birth or otherwise, sickly or weak, in whom vitality is defective originally or secondarily and accidentally, could propagate their kind so that their progeny could live, the human race would soon degenerate and become a race of pigmies, of sickly dwarfs, and eventually die out. Pulmonary tuberculization is in reality one of the diseases by which Providence eliminates those that are weak, imperfect, and consequently unfit to perpetuate the race in its integrity. Individually it may be very hard to be thus eliminated for the good of the human race; but if we rise above individuals and grasp the interests and well-being of the entire human family, it will be seen that these diseases are, in truth, a bountiful dispensation of Providence. They may be compared to hurricanes in tropical climates, which purify the earth and contribute to make it habitable, although often at the expense of great individual suffering."

ART. 61.—*On the Use of the Thermometer in Tubercular Phthisis.*

By Dr. ———.

(*The Medical Times and Gazette*, June 23, 1866.)

Few diseases can cause a daily elevation of three or four weeks' duration. Acute inflammations cease, and the temperature consequently falls, long before this period has elapsed. The same remark applies to most of the acute specific fevers. The temperature in typhoid fever generally becomes normal by the twenty-fifth or thirtieth day of the disease. The diseases at present known to be able to cause such a long-continued elevation of the temperature as that above mentioned (namely, a month or more) are tuberculosis (the deposition of tubercle in any of the organs of the body), rheumatism, ague, abscesses, suppuration (such as occurs in empyema, large open psoas abscesses, &c.), and certain forms of chronic induration of the lung, with ulceration of the bronchi and the formation of cavities.

Under the term tuberculosis the writer includes scrofulous pneumonia, the product of which disease was formerly, and still is by some, considered to be one of the forms of yellow tubercle.

All these diseases, with the exception of tuberculosis, are accompanied by such characteristic symptoms that there is usually no difficulty in forming a correct diagnosis. Rheumatism makes itself known by the pain in the joint, or by the physical sign of peri- or endo-carditis. The symptoms of ague are mostly so characteristic that the disease can seldom be mistaken; abscesses, empyema, profuse suppuration, can always be detected (abscesses may evade detection, however, for some time). Of all the diseases mentioned, chronic induration of the lungs, both in respect of physical signs and symptoms, closely simulates phthisis.

The length of time, therefore, that the elevation of the temperature continues affords much help in making our diagnosis. If this elevation has continued for some time—say a month—the number of diseases we have to decide between is small, and these for the most part have characteristic symptoms, and thus the diagnosis may become easy. Tuberculosis, however, may exist, without any physical signs being present, and at the same time the symptoms may be very slight and utterly insufficient for a correct diagnosis. In such a case, if the patient continue febrile for a month or six weeks, the disease is in all probability tubercular.

In cases where there is a doubt whether the patient suffers from phthisis or not, if the temperature be elevated, tubercle is probably being deposited in one

or more of the organs of the body. Such elevation may be due to some co-existing febrile disease not tubercular; but such a disease mostly ceases in a few days, and in the case of typhoid fever usually at the end of the fourth week. If, therefore, the temperature continues to rise daily for more than a month, we are justified in diagnosing in such a case (providing none of the other diseases capable of producing a chronic elevation of the temperature be present) that the patient is tubercular.

It may be said that before a month has elapsed the physical signs and symptoms will be so marked that all difficulty of diagnosis will have ceased. Such, however, is not the case, for tuberculosis of the lungs or other organs of the body may continue for a much longer period than that mentioned, and yet produce no physical signs, while the symptoms, moreover, may be slight and utterly insufficient to insure a correct diagnosis.

Hence it follows that in some cases the temperature of the body affords us the earliest indication that tubercle is being deposited in the body; *for if there is a chronic elevation of the temperature, and this be not due to rheumatism, ague, suppuration, or chronic induration of the lung, such an elevation must be considered to be due to a tubercular deposit in the body.*

ART. 62.—*On the Detection of Lung-Tissue in the Expectoration of Persons affected with Phthisis.*

By SAMUEL FENWICK, M.D.

• (*British Medical Journal*, July, 1866).

In a paper read before the Medico-Chirurgical Society the author stated that he had included in his observations the results obtained from the examination by the microscope of the expectoration of one hundred real or suspected cases of phthisis. The plan hitherto recommended of searching for pulmonary tissue in sputum had been to spread it on the flat surface, and pick out of it with needles any portions that might appear likely to contain elastic fibre. He had, on the contrary, been in the habit of liquefying the expectoration by boiling it with a solution of pure soda, and then placing the fluid in a conical-shaped glass, when every particle of elastic tissue fell to the bottom, and could be removed and placed under the microscope, as in the examination of urinary deposits. In this way he had easily found one hundredth part of a grain of pulmonary structure after it had been mixed in bronchial mucus; and he calculated that one thousandth to one ten thousandth part of a grain might be detected in any expectoration that may contain it.

In thirteen out of twenty-three cases in which tubercle was suspected to be in the first stage, lung-tissue was found in the sputum. In seven of the twenty-three cases there was no physical sign of tubercle, but its existence in the lung was suspected from general symptoms only; and in the expectoration from these there was no pulmonary tissue. In sixteen cases there were stethoscopic signs leading to the belief that tubercle was present; and in thirteen of them elastic fibre was found in the mucus coughed up.

There were twenty-four cases in which auscultation and percussion indicated softening of the tubercle in the lungs, and in all pulmonary tissue was present in the sputa. In fifteen the physical signs were of a doubtful nature, and seven of these presented microscopic evidence of the ulceration of the lungs.

In thirty-five cases the stethoscope indicated cavities, and in all these there were fragments of lung-tissue in the expectoration. In two cases the author had diagnosed enlarged bronchial tubes, and in neither of them was there any appearance of elastic fibre in the sputum. In sixty-nine cases he counted the numbers and size of the fragments of lung expelled. In one specimen, coughed up in twelve hours, eight hundred fragments were found; and often fifty or sixty fragments were detected where, from the stethoscopic signs alone, no great destruction of lung could have been anticipated.

The proportion of bronchial tubes the author found to be least in the stage of softening, and greatest where the stethoscope indicated cavities. The greatest proportion of fragments of single air-cells was found in the first stage, and the largest proportion of large fragments of lung where cavities existed.

(C) CONCERNING THE CIRCULATORY SYSTEM.

ART. 63.—On the Application of the Graphical Method to the Study of Diseases of the Heart.

By Dr. BALTHAZAR FOSTER.

(*Medical Times and Gazette*, September 29, 1866.)

In a first article on the application of the graphical method to the study of the diseases of the heart and great vessels, Dr. Balthazar Foster reproduces M. Marey's figure of the normal tracing of the heart's action obtained by the cardiograph, and explains it as follows:—



The point indicated by the letter A corresponds to the contraction of the auricle. The elevation at B corresponds to the systole of the ventricle, which lasts up to the point C; the intermediate undulations are referred to by Marey to the closure of the mitral valves. The point marked by the letter C corresponds to the closure of the sigmoid valves, and the sudden fall in the trace which occurs after this point corresponds to the diastole of the ventricle. The slight undulation D at the beginning of the line of ascent of the trace Marey considers to be due to the sudden influx of blood from the auricle to the ventricle, immediately after the relaxation of the latter. It is no doubt caused by the commencement of the flow into the ventricle, but whether we are to attribute this flow simply to the effect of relaxation of the ventricle, or to the first part of the contraction of the auricle, is open to discussion.

ART. 64.—On the Cardiograph.

By M. MAREY.

(*Journal de l'Anat. et de la Phys.* II., 1865; *Schmidt's Jahrbücher*, 1866.)

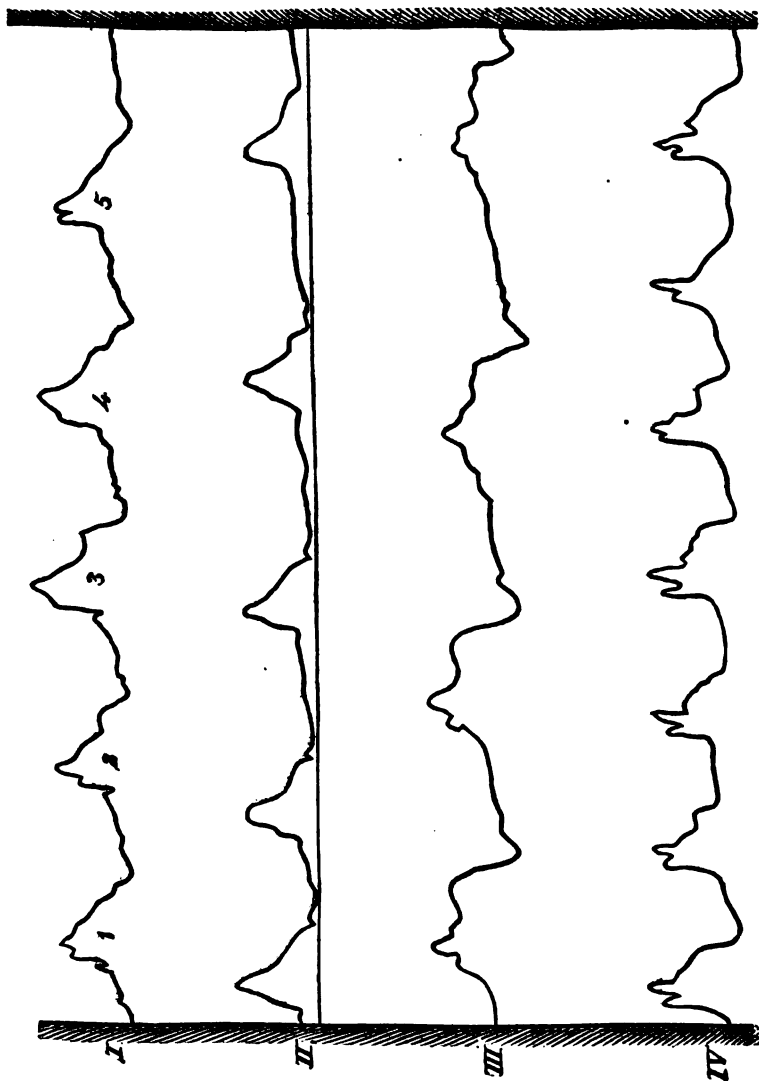
M. Marey describes some experiments with the cardiograph. He finds:—

1. That the trace coincident with inspiration is of greater amplitude—i. e., of greater distance from its lowest to its highest point, than the trace coincident with expiration.

2. When the breath is held at the end of a deep inspiration, and a trace taken at the same moment, it is seen (A) that the abscissæ corresponding to the successive phases of the heart's action are increased in length; that is, that the frequency of the pulsations is diminished; and (B) that the successive curves are of smaller amplitude; that is, that the force of the impulse is diminished. The diminution of amplitude cannot be ascribed to a change in the position of the heart occasioned by the diaphragm, since while the breath is held the heart's

place remains the same. The greater fulness of the right chambers, in consequence of the impeded respiration, is the probable cause of the phenomenon.

3. When a strong expiratory effort is made with closed glottis, an effect is produced upon the pulse trace taken immediately after the relaxation of the



effort. The cardiographic trace also taken under such conditions differs in many respects from the normal one. Marey ascribes the change to the energetic action of the left ventricle, and to the more rapid rush of the blood.

4. The cardiographic trace taken after strenuous muscular exertion, displays certain peculiarities, essentially due to the diminished energy of the auricular systole, and to rapid closure of the atrio-ventricular valves.

The annexed tracings (p. 89) were obtained under the conditions above specified.

No. 1 is a trace taken during quiet respiration. The curves numbered 1, 2, and 5, correspond to expiration; 3 and 4, with greater amplitude to inspiration.

No. 2 was taken whilst the breath was held after a deep inspiration.

No. 3 was taken after a powerful expiratory effort with closed glottis.

No. 4 was taken after strenuous muscular exertion.

ART. 65.— *On the Theory of the Pulse.*

By Dr. J. BURDON SANDERSON, Senior Assistant Physician to the Hospital for Consumption, Brompton, and the Middlesex Hospital.

(*The Lancet*, November 10, 1866.)

This paper forms the first of a series on the application of physical methods to the exploration of the movements of the heart and pulse in disease by Dr. Sanderson and Dr. Anstie. The object of the series is to show in what way the sphygmograph may be made useful at the bedside or in the consulting-room. That portion of the present paper which especially relates to the physician does not permit of curtailment.

"5. To the physician, the value of the pulse as a sign depends mainly, though not entirely, on its affording indications of the mode of contraction of the heart. Physiologically, it can only be understood as a *propagated* phenomenon; for whether it is regarded as a tide (*flumen*), or as a wave (*unda*), it is alike transmitted from the heart towards the periphery. For this reason the investigation of its nature must commence at the aortic orifice, or as near to that point as possible. It originates in the aorta, and is to be found in its entirety. The farther from the centre it is explored, the more will it be modified by transmission, and the more difficult will it be to analyze its characters.

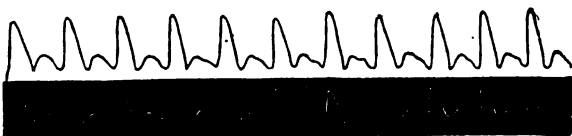
FIG. 1.



FIG. 2.



FIG. 3.



"FIG. 1.—Tracings obtained by the successive application of the sphygmograph to the carotid and radial arteries of a male patient, aged twenty-one, under my care at the Middlesex Hospital, convalescent from lead colic; the carotid tracing being on a white ground, the radial on a black.

"FIG. 2.—Carotid and radial tracing of a patient, aged twenty-three, under my care at Brompton, suffering from mitral and aortic disease of the heart.

"FIG. 3.—Similar tracings of a male patient, aged twenty-five, also under my care at Brompton, affected with phthisis in the third stage. The tracings show some of the more striking differences between the pulse-curves of the two arteries, particularly the greater duration of the systolic distention in the carotid than the radial — the peculiarities due to the propagation of vibrations from the heart and the notch or angle by which the moment of closure of the aortic valve is indicated. In each instance a low arterial pressure is indicated.

"6. In man the pulse of the aorta cannot be explored; but the great arteries leading from it are so placed that in most persons the sphygmograph can be so applied as to obtain satisfactory tracings, the forms of which, as might be expected, are more complicated and various than those yielded by the radial. Considering the size of the carotid, and its proximity to the aortic aperture, it may be assumed that the pulses of these vessels are identical both in time and character to that of the aorta; and that whatever be the theory we adopt as to the pulses of the more remote arteries, we have here to deal with the primary extension of the arterial wall, due to the actual progression of blood from the heart into the aorta.

"7. The curve obtained when the sphygmograph is applied either to the carotid or subclavian in the neck is markedly divided into two parts. One of these has been found by observation to coincide with the period during which the heart is in communication with the aorta; the other, with the interval during which the sigmoid valves remain closed. The commencement of the systolic period is always marked by a sudden jerk upwards of the lever, usually indicated by a nearly vertical line; the close, by a second but more inconsiderable jerk, which is always preceded by a sudden depression. During the first part of the intervening time the artery is distended with blood, but towards the end the distention suddenly ceases. The contraction of the ventricle having terminated, the blood flows back from the aorta into the heart. This back flow lasts only for a moment, being arrested by the closure of the aortic valves. Immediately the communication with the heart is stopped, the aortic pressure again rises, tilting up the lever as already described. Although the carotid pulse-curve exhibits great variety in different individuals, its form always indicates that at each stroke of the heart the lever rises abruptly, remains elevated for a short period, and then falls as suddenly as it rose. That the period of elevation coincides with the actual influx of blood from the ventricle is proved by experiments made by Chauveau, who found that when his beautiful instrument for measuring the velocity of the blood-stream was introduced into the carotid of a horse, to which a sphygmograph was at the same time applied, the acceleration of the current corresponded in degree and duration with the distention of the artery.

"8. Of the less constant characters of the carotid tracing, some are directly dependent on the *mode* in which the ventricle contracts, others on peculiarities in the closure of the valves. Under certain conditions, the nature of which cannot be here discussed, the mass of blood in the ventricle is thrown into rapid vibration during the act of contraction. Whenever this is the case the vibration is communicated to the arteries, and shows itself in the carotid tracing; the ascending limb of the pulse-curve being interrupted by a series of notches, each of which corresponds to a *vibration*. When these vibrations are very well marked, they communicate the sensation of thrill to the finger. The other vibrations to which reference has been made have to do with the descent of the lever at the end of the systolic period. In some cases this descent is well marked, and is denoted by a deep notch, as in Fig. 3; in others it is marked by a mere change of direction. These differences may be clearly shown to be dependent on the degree to which aortic regurgitation takes place, or, in other words, on the rapidity with which the sigmoid valves close. When the mean

arterial pressure is high, the valves close instantaneously; in the contrary condition, when the arteries are flaccid, *the valves remain open for an appreciable period after the ventricular contraction has ceased.*

"9. The preceding observations tend to show that in the great vessels pulsation is produced by a simultaneous *increase of tension and acceleration of movement.* In the more distant arteries these two effects are no longer coincident. Both are transmitted; but inasmuch as their propagation is influenced in a directly opposite manner by those physical conditions which exist in the arteries, they tend to separate themselves more and more from each other the farther the exploration is made from the heart. Just as a ray of light becomes two by being transmitted through a medium which refracts them at different angles, so the pulse, in its propagation from the heart to the periphery, splits into its two elements of expansion and acceleration.

"10. The limits of this paper do not permit me to throw the light which these considerations throw on the explanation of the peculiarity and character of the radial pulse. In anticipation of my next paper, I place before the reader the following summary of the conclusions I have arrived at with respect to it.

"a. The propagation of the systolic acceleration, if it occurs at all, gives rise to a rapid expansion of the artery which is synchronous with the ventricular systole, and is followed immediately by collapse.

"b. The propagation of the systolic pressure-wave gives rise to a *gradual* expansion of the artery, and, in accordance with Weber's law, follows the systole after a variable interval.

"c. When the resistance due to the mean arterial tension is considerable, the acceleration extends only to the great vessels, so that its effects at the wrist are imperceptible. In such a case the form of the pulse is wave-like. In the opposite condition as regards arterial tension, the effects due to the systolic acceleration are well marked; the elevation of the lever is abrupt, but of short duration."

ART. 66. — *On the Seat and Mechanism of the Cardiac Murmurs called Anæmic.*

By DR. PARROT.

(*Archives Générales de Médecine*, Août, 1866.)

Dr. Parrot lays down the following propositions:—

The cardiac murmur called anæmic is very frequent. It not only exists in anæmia, chlorosis, certain cachectic states, hypochondriasis, and hysteria, but also in the majority of cases of acute articular rheumatism.

In fevers it is common to find a cardiac souffle having characters analogous to those of the anæmic murmur.

All these abnormal bruits ordinarily accompany pulsation of the external jugulars.

Contrary to the opinion that they are localized at the commencement of the aorta, Dr. Parrot maintains that their seat is the right auriculo-ventricular orifice, and that they arise from an insufficiency of the tricuspid valve.

To indicate this double fact, Dr. Parrot proposes to call the murmurs in question, forming a well-determined group, *tricuspid*.

The morbid process which gives rise to them is explained by him as follows: (1.) enlargement of the right side of the heart and its vessels from debility and general atony in the different anæmic states indicated, by the immediate intervention of the nervous system in fevers; (2.) consecutive augmentation of the auriculo-ventricular orifice, and consequent insufficiency of the valve.

From this twofold connection of phenomena results the distinction of tricuspid murmurs into the anæmic or *passive*, and the febrile or *active*.

(D) CONCERNING THE ALIMENTARY SYSTEM.

ART. 67. — *On Peritoneal Friction-Sounds.*

By Dr. SEIDEL.

(Schmidt's Jahrbücher, 1866, No. 4; Archives Générales de Médecine, Juin, 1866.)

Peritoneal friction-sounds, Dr. Seidel states as the result of his observations, have been noted on a level with nearly all the abdominal organs. Their signification is very variable. They indicate the existence either of a chronic or an acute malady, but more rarely the latter. It is not necessary for the production of a friction-sound that the peritoneum should be supported, as it were, by a solid part. In the majority of the cases the friction-sound was somewhat rhythmical, under the influence of respiratory movements, which were perceptible even in the hypogastrium. The perihepatic friction-sound, particularly when occurring over the convex surface of the organ, might easily be confounded with a pleuritic friction-sound. To distinguish the one from the other, let the patient make a forced inspiratory movement, the glottis being closed, a movement similar to those which accompany vomiting. In this movement the inferior border of the lung is not sensibly displaced whilst the liver is notably elevated. If the friction-sound remains under these circumstances, it is almost certain that it is of peritoneal, not pleural, origin. In no case has a non-rhythmical sound, arising from the peristaltic movement of the intestines, been noted. Peritoneal friction-sounds are observed of every grade, from an extremely slight rustling to a veritable rasp.

ART. 68. — *Milk-Diet and Onion-Juice in Anasarca.*

By Dr. PAUTIER, of Aigre (Charante).

(Gazette Hebdomadaire; Journal of Practical Medicine and Surgery, October, 1866.)

On the 27th of February, in a case of anasarca under his care, M. Pautier found that the symptoms had acquired the highest possible degree of intensity. The abdominal parietes overlapped on either side the upper third of the thighs; the skin was dry, shining, and here and there covered with blisters; the dyspnoea was considerable, the voice extinct, and the pulse small and quick; a bed-sore had formed on the back, and double hydrothorax was present.

No albumen was detected in the urine.

Sudorifics, diuretics, and aperients were exhibited without any apparent benefit up to March the 9th, when M. Pautier prescribed the following treatment:—

Three cups of milk-porridge to be taken daily, each followed by the ingestion of dry bread and raw onions, without any drink.

For thirty days this diet was persevered in, and in the course of a fortnight the patient was enabled to leave his bed. In April nothing remained but slight oedema of the feet and ankles. A generous diet was then prescribed, and in another month a complete cure was effected.

ART. 69. — *On the Treatment of Chronic Dysentery.*

By Mr. HARRY LEACH, Resident Medical Officer of the "Dreadnought"
Hospital Ship.

(*The Medical Press and Circular*, September 5, 1866.)

Mr. Leach states that no disease in the practice of the "Dreadnought" hospital-ship has been treated with so great a variety of drugs as chronic dysentery. The number of remedies is a measure of the obstinacy of the malady, and the ineffectiveness of the treatment usually adopted in this malady. Depressing, however, as is this result, the physician is not altogether helpless, and at times he sees his efforts crowned with success. The course of treatment recommended by Mr. Leach, from his large experience, is strictly based upon the pathology of the disease. He says:—

"The pathology of chronic dysentery is, in influencing treatment, chiefly confined to the simple fact that ulcers in variable numbers, and equally variable stages, exist along the course of the large intestine. They may be large, few in number, and may exist only near the caput coli. They may be many in number and small; and if this be the case, they are generally scattered pretty equally over the whole course of the large intestine. They may penetrate only the mucous coat of the bowel, or may burrow so deeply through the middle and into the external coat as to produce an hourly risk of perforation, and consequent peritonitis. But be the number and state of the ulcers what they may, putting minute and impractical considerations aside, it is clear that our endeavors must be mainly, if not wholly, directed to the giving to these ulcers a favorable opportunity of healing and cicatrization. . . . Having regard to the very large number of cases admitted into this hospital, and being sure, from personal observation, that drugs have had a fair and impartial trial, I am compelled to arrive at the conclusion that in cases of chronic dysentery (if the disease be of more than three months' standing) very little specific good can be done by any of the so-called remedies commonly used. The only drug that can be said to have produced a definite amount of relief in any number of cases is the compound powder of ipecacuanha, and I am by no means prepared to give a very decided opinion about its efficiency. A dose of castor-oil and laudanum, given occasionally, often assists the evacuations, and affords relief from tenesmus. Beyond these, the extent of my belief in drugs no further goes. And hence it may be said, and reasonably maintained, that, as chronic dysentery may recede from the path of recovery by meddling and muddling medicine, so we may medically enjoin and employ rest in these cases as confidently and as happily as does Mr. Hilton in 'Accidents and Surgical Disease.' And rest should mean not only absolute quiet for the body, but for the bowel also. The influence of this single condition is marvellously shown in many cases admitted to the 'Dreadnought,' the progress of which cannot but lead us to refrain from meddling with the accomplishment of a process that simple quietude has evidently caused to begin. In analyzing a list of fatal cases, it is found that half die from exhaustion, no other lesion except extensive ulceration along the colon being discoverable. The other moiety of cases is hastened to an end by complications of bronchitis or cirrhosis, hepatic abscess, or peritonitis. As therefore our efforts should be directed to the sustentation of the system until nature has accomplished the healing process, it is particularly necessary that care should be used in the choice and administration of diet. Milk, beef-tea, and eggs, in small and oft-repeated portions, should form the staple of the patient's food for some weeks after admission, varied occasionally by rice, arrowroot, or any other good invalid cereal. Strict quietude in the horizontal position cannot be too strongly insisted upon. If much pain exist, it may be relieved (and that without the use of opium) by light and warm applications to the abdomen. The use of stimulants is, I believe, still

an open question among most practitioners; but experiences gained at this hospital lead to the conclusion that they should, as a rule, be entirely avoided. An extra allowance of good beef-tea will do far more to sustain the patient than wine or brandy, howsoever given, and I am sure that in many cases the latter are positively injurious. A placebo must, of course, be prescribed, for as there are few, if any, cases so tedious, so none require more encouragement by all the arts that influence the mind in the conservation of the body. A month, or two, or three, may elapse, with little, if any signs of change for the better. In many cases a fatal result disappoints our best expectations; but they who, having lingered the longest, at length end well, are those with whom therapeutics have had little or nothing to do. The most favorable results can, of course, yield only a condition of comparative health, which any imprudence as to change of clothing or diet will speedily disturb and destroy. But when men, after months of probationary slop-food, reach successfully to the stage of beef and mutton diet, we discharge them as convalescents, with a good hope to them of a renewal of the lease of life. Good and gentle nursing is of paramount importance, for the vital powers are so feeble, that any risk of bed-sores must be most scrupulously avoided, and would almost invariably precede a fatal result.

"The tendency of the foregoing remarks may be condemned as too totally abandoning all therapeutic aids, but they will effect the purpose of the writer, if only they assist to propagate a plan of treatment that will allow cases of chronic dysentery to be cleverly nursed and fed, rather than actively stimulated and physicked."

ART. 70. — *Case of Gastric Ulcer treated by Hypodermic Injection — Recovery.*

By GEORGE WILLIS, M.D.

(*Medical Times and Gazette*, July 7, 1866.)

Six years ago, C. L., then aged fifty, stated to Dr. Willis that he had suffered all his life at times from dyspepsia, which was always relieved by a little suitable treatment; that he had never been confined to his bed until Jan. 7th of that year for a single day. On that day he was seized with terrible pain in the stomach and vomiting, which state of things lasted for three months, and kept him in bed.

In the March following he had a hæmorrhage from the stomach of about two quarts, and for fourteen days after this he was treated by beef-tea and wine injections. On April 23d, Dr. Willis first saw the case, which he at once recognized as one of gastric ulcer. So great was the irritability of the stomach at that time, and so acute the agony, that not even milk and lime-water in the smallest quantities could be borne or retained. Dr. Willis tried large doses of opium, creosote, bismuth, glycerine, kino, &c. — all were rejected almost as soon as swallowed.

In this state the patient was seen in consultation by Dr. William Willis (late of the Middlesex Hospital, but now in Japan), and it was decided to use morphia hypodermically, to soothe his transit from this world, rather than in the hope of cure. He had beef-tea injections, with eggs and brandy; the morphia injection eased his pain and induced sleep.

A trial was now made at the end of a week of a little milk, and it was found that a cupful would keep down and not cause very great pain if preceded by the morphia injection, which was of a strength equivalent to three grains of the salt.

This treatment was continued daily for above a year, and the diet was bread, milk, gruel, and occasionally a little fish. At the end of a year the man left his bed and came daily to our dispensary for his treatment, which was now reduced to two grains; so cadaverous was his aspect, that people turned around in the street to look at the almost corpse-like man feebly moving along. He

used to say, in his Staffordshire accent, when holding out his skinny fore-arm for the injection, "I am like a baby wanting his mammy."

At this time he began the use of beef-tea and mutton-broth, but the pain and vomiting invariably returned if by any chance the injection was unduly delayed. For another year he had gradually improved in health — his digestion became better. At the end of this year the daily hypodermic injection was only the equivalent of one grain of morphia, and six months later he was able to do without it altogether, but took especial care in his diet. He had so far recovered in strength, looks, and flesh, that a few months afterwards he got employment at his old work, and reported of himself the other day that he had enjoyed perfect health for more than three years; that he could eat any sort of food and in full quantities; usually ate beef twice a day, and took two or three pints of beer. He has grown very ruddy, weighing nearly twelve stone, though when he left his bed he hardly weighed eight.

The only medicine taken by the mouth during his illness was a dose of salts and magnesia once a week, for without this his bowels never acted. On a few occasions an injection of atropine was substituted for the morphia in a moderately large dose, and then it never relieved pain. On one occasion the fourth of a grain produced very alarming symptoms, and was never repeated. During twenty years Dr. Willis states that he never saw a more satisfactory case, or one that brought more credit to treatment, and he hopes that such a valuable mitigation of suffering may never fall into disuse. He adds that it is now the only solace of a man dying of cancer of the rectum, and he requires six grains of morphia daily.

ART. 71. — *A Case of Fatal Peritonitis from Perforation of the Appendix Vermiformis.*

By Dr. A. D. HALL and Dr. CORSE.

(*American Journal of the Medical Sciences*, October, 1866.)

Mrs. S., aged twenty-five years, of slender frame and rather delicate health, the mother of two children, the youngest four months old, both of whom she had been obliged to wean soon after birth, from want of nourishment, had complained for one or two weeks chiefly of languor and debility, when she was attacked, on the 10th of March, with severe pain in the lower part of the abdomen, followed by nausea and vomiting. The pain continued during the two following days, but had somewhat abated on Tuesday, the 13th, when she ate a piece of chicken, after which it became very aggravated and the vomiting still more incessant. On Wednesday, the case having assumed a more serious aspect, her husband, himself a physician, sought other counsel. At this time, her pulse was 140, abdomen extremely tender on pressure, bowels obstinately constipated and somewhat tympanitic, and the stomach extremely irritable. She lay upon her side with her legs drawn up, and had an anxious, distressed countenance. There was no tumor or other indication of hernia to account for the symptoms, and the disease was at once recognized as peritonitis of the most general and dangerous type. The usual remedies for peritonitis were employed without effect, and the patient died on the 15th of March.

Inspection, fifteen hours after death. — The body preserved in ice; rather a small, spare figure, face thin, surface of abdomen marked with leech-bites and the effects of a blister. Small amount of fat in the abdominal parietes. Half an ounce of fluid pus was found in the interspace between the stomach and liver. The folds of the mesentery and the convolution of the intestines were glued together by easily separated lymph. About six ounces of brownish turbid serum were found in the pelvic cavity. The results of inflammation appeared, however, most marked in the right iliac region, and hence arose a suspicion of perforation of the intestine in that neighborhood. On a careful examination a perforating ulcer of the appendix was found, through which a

grooved director could be passed, communicating freely with the peritoneal cavity. The perforations were two in number. The first was one inch from the caput coli; the muscular coat of the bowel appeared to have been destroyed by ulceration, and then the peritoneal coat had given way in three small openings one-sixteenth of an inch in diameter; these were arranged in a triangular manner. The second was a solitary perforation an inch and a half from the end of the appendicula. The mucous membrane of the process appeared to be extensively ulcerated; and in places presented the cribriform appearance not unfrequently found in the intestinal tract of patients dying of Bright's disease. Although thick patches of lymph had been thrown out in separate deposits, still no attempt by nature to limit the effusion of foreign material by lymph barriers was discoverable. There was nothing to show that any foreign body nor that any impaction of feces had been the origin of the lesion, although the material, if such had been the origin of the mischief, might readily enough have escaped into the cavity of the abdomen.

ART. 72.—*On the Treatment of Infantile Diarrhœa.*

By Dr. BUIZ.

(*Journal des Connaissances Médicales; Journal of Practical Medicine and Surgery*, August, 1866.)

Dr. Buiz expresses the following opinions, as the results of his experience, on this subject:—

"1. The diarrhœa of spoon-fed infants generally yields to the addition of a small quantity of bicarbonate of soda or of lime-water to the milk.

"2. In summer-diarrhœa supervening without any tangible cause, from one-sixth to one-quarter of a grain of calomel three or four times a day, associated with an equal amount of ipecacuanha, will often be found efficacious. If the indisposition is consequent on exposure to cold, minute doses of opium are appropriate.

"3. Chronic diarrhœa resulting from various causes may in most cases be checked with nitrate of silver, one-sixth of a grain of which may be exhibited without risk. This remedy is sometimes, however, rejected by the stomach, and should then be replaced by tonics and vegetable astringents.

"4. Diarrhœa combined with anæmia and impaired nutrition, is often the result of a state of decomposition of the blood, for which the best remedy is the proto-iodide of iron. In such cases bismuth is frequently unavailing, whereas in doses of half a drachm three times a day it is invariably successful against intestinal relaxations referable to tubercular ulceration. The causes of intestinal catarrh are, however, so obscure, that in many instances the treatment must be empirical."

ART. 73.—*A Case of Hydatid of the Liver, treated successfully by the Injection of the Extract of Male Fern into the Cyst.*

By Dr. F. W. PAVY, Assistant-Physician, Guy's Hospital.

(*Proceedings of Royal Medico-Chirurgical Society*, 1866; *Medical Times and Gazette*, September 29, 1866.)

Harriet V., a woman of pretty healthy appearance, aged twenty-one, admitted into Mary Ward, Guy's Hospital, under the care of Dr. Pavy, Oct. 4th, 1865. When three years old she was squeezed against a wall by a cart-wheel, which struck her on the right side of the chest. No rib was fractured, and she soon recovered from the accident. About six years ago the patient noticed a slight

swelling in her right side, which has since continued gradually increasing in size. On examination, a large deep-seated tumor was to be noticed occupying the right hypochondriac region, and extending considerably beyond, both above and below. Its boundary could be clearly defined inferiorly. It caused a considerable bulging of the ribs on the right side, and the right mammary gland was raised about three-quarters of an inch above the level of the left. Fluctuation was apparent. Dulness extended as high as the lower border of the second rib on the right side. The case was diagnosed to be one of hydatid tumor of the liver. The relationship that is agreed upon by helminthologists to exist between the hydatid and the tænia, and the known effect of the extract of male fern upon the latter, suggested to the author the treatment adopted. The extract is not miscible with alcohol or water, but it was ascertained that a liquid sufficiently thin for passing through a fine canula was to be obtained by admixture with a little potash. November 6th. — A fine trocar and canula were introduced into the tumor by Mr. Durham, and about four ounces of a limpid colorless fluid allowed to escape, in order to diminish the tension of the cyst. A liquid consisting of half a drachm (by measure) of the purified semi-fluid extract of male fern, half a drachm of liquor potassæ, and six drachms of water, was then injected into the sac, care being taken throughout to prevent the entrance of air. The fluid removed was examined, and found to be non-albuminous, charged with a large quantity of the chloride of sodium, and to contain hooklets of the echinococcus. At the introduction of the trocar the patient complained of experiencing a considerable amount of pain, which she referred to the lower part of the abdomen. Some febrile excitement, vomiting, and purging followed, but there was no evidence of peritonitis. 10th. — On percussion, it was found that dulness did not extend so high in the chest on the right side by one rib as previous to the operation. 16th. — The patient was allowed to get up. 20th. — The tumor was found to be much diminished in size. It was much less distinctly circumscribed. The chest was resonant on percussion as low as the space between the fourth and fifth ribs. 29th. — The circumference over the most projecting part of the tumor before the operation was $34\frac{1}{2}$ inches; to-day it is $31\frac{1}{2}$ inches, showing a reduction of $2\frac{1}{2}$ inches. Tumor very soft, and its lower border not to be defined as formerly. The patient, being well, was allowed to leave the hospital. A fortnight, and again a month, afterwards she was seen, and found to be progressing satisfactorily. May 10th, 1866. — Since she was last seen the patient had suffered from an attack of rheumatic fever with heart complication and bronchitis. She had been in no way troubled with her side, and her circumference now was 30 inches. No swelling was perceptible to the eye, but a hardness remained in the hypochondriac region. The inference to be drawn from the result in this case is, that the injection of the extract of male fern caused an immediate destruction of the life of the hydatid without the production of suppuration, and that a rapid absorption of the fluid element of the cyst afterwards took place.

(E) CONCERNING THE GENITO-URINARY SYSTEM.

ART. 74.— *Remarks on Chronic Albuminuria, Originating during the Convalescence from Scarlet Fever and other Eruptive Diseases.*

By Dr. HERMANN WEBER, Physician to the German Hospital.

(*Proceedings of the Royal Medico-Chirurgical Society*, 1866; *Medical Times and Gazette*, September 29, 1866.)

These remarks do not refer to the well-known and easily-recognized acute scarlatinal dropsy or desquamative nephritis of scarlet fever, but to a chronic form of albuminuria originating occasionally at a much later period, when recovery had apparently been established already for several weeks. The author related three cases of scarlet fever, unattended with albumen in the urine or



any other symptoms of renal complication during the first four weeks from the commencement. The subjects of the cases appeared quite well at the end of about a month, when they returned to their usual mode of living; but about three or four weeks later the general health became disturbed (loss of appetite and strength, glandular swellings, boils, anæmia, and occasional sickness), and the urine, as soon as the patients came under treatment, was found highly albuminous. Perfect recovery took place in one case; while in another the general health became much improved, but a slight degree of albuminuria has remained; and in the third case death occurred seven years after the commencement from broncho-pneumonia, with uræmic symptoms, the *post-mortem* examination exhibiting waxy degeneration (amyloid) of the kidneys. The author maintains that the connection between the scarlet fever and the renal disease in this class of cases is not the same as in the acute scarlatinal dropsy; while the latter may be considered as a part of the scarlet-fever process, the former, originating at a much later period, is probably only so far connected with the scarlet fever that through it a greater susceptibility to the development of chronic renal disease is effected, in the same way as there results a tendency to other chronic affections, like glandular swellings and eruption of boils. The author believes that the same tendency may be caused also by other acute diseases, especially those of exanthematous nature, and he gave two cases in which chronic albuminuria took its origin in persons who had lately recovered from erysipelas of the head and typhoid fever respectively, both of which cases, during the febrile state and during the convalescence, the urine had been quite free from albumen. He referred also to a similar case occurring after typhus fever, and described by Dr. Johnson in his work on *Diseases of the Kidneys* (London, 1852, p. 408). The author was inclined to infer from such cases that amongst the many cases of Bright's disease the origin of which is uncertain, a not inconsiderable proportion may have been developed during the later stages of convalescence from exanthematous diseases; that, therefore, as urged already by Dr. Johnson with regard to fever, particular care ought to be taken during those stages with regard to diet, clothing, habitation, avoidance of over-exertion and exposure to cold and damp air. Dr. Weber further pointed out the insidiousness of the commencement of the chronic albuminuria, as, in four cases out of the five related, anasarca and admixture of blood with the urine were altogether absent. Lassitude, loss of strength, anorexia, swelling of the lymphatic glands, and eruptions of boils, being the principal symptoms, ought, therefore, always to lead to an examination of the urine, the more so as by an early discovery of the renal disease the chance of a perfect cure is much increased, as seen in two of the five cases reported.

The treatment consisted in attention to skin and diet; in the administration of iron with acidulated acetate of ammonia, and occasional doses of elaterium to relieve the kidneys, and in the use of the hot vapor bath or the warm wet sheet.

ART. 75.—On Paroxysmal Hæmaturia.

By Dr. F. W. PAVY, F.R.S., Assistant-Physician and Lecturer on Physiology, Guy's Hospital.

(*The Lancet*, July 14, 1866.)

Dr. Pavy reports the following cases of a form of hæmaturia, which he denominates paroxysmal. He considers that in these cases an unusual susceptibility of the kidney to temporary congestion from exposure to cold existed:—

"A middle-aged gentleman residing in Suffolk, came to consult me in November, 1864, bringing with him a specimen of urine which he had passed on the previous day. He informed me that a slight exposure to cold brought on a fit of shivering, which was followed by the passage of urine of a more or less porter-like color; and that, usually by the next day, the natural appearance of it became restored. The specimen of urine he brought had been passed some

time after a paroxysm of shivering, which had come on from driving in an open vehicle on the previous day. It was high-colored, but not dark like porter; opaque from the presence of lithates; and, after the lithates cleared up, on the application of heat, a deposit of albumen came down. On examining it microscopically, a large number of octohedral, oxalate-of-lime crystals were to be seen with the amorphous deposit of lithates. The urine he passed at my request during his visit was natural in color and entirely free from albumen. A fortnight later I saw him again. He had suffered from no fresh attack, and, beyond a deposit of crystals of lithic acid, his urine was perfectly natural. A fortnight after this he brought me a specimen of very dark-colored urine, which he had voided shortly after a shivering fit. This I found to be highly charged with albumen; and, by the microscope, casts of tubules, some blood-corpuscles, colored granules, and numerous crystals of lithic acid were brought into view. The urine of the following day was natural in color, and only slightly albuminous; and on the day after this the urine had completely resumed a natural character.

"My patient informed me that during the last year or two he had frequently suffered from similar attacks; that he had been under different medical men, and had taken quinine and various other remedies for his complaint. It had been ascertained that there was no stone in his bladder; and it was not exercise but exposure to cold that brought on his attacks. He was comparatively free from them in the summer. There was no periodicity about their recurrence of the character belonging to ague; and he had never, as far as he knew, been the subject of that complaint. Riding or driving on a cold day, if his feet got cold, sufficed to bring them on; and on this account he had been obliged to give up riding with the harriers, a sport that he had been hitherto frequently accustomed to join in. Going out of doors and standing for a few minutes in the cold air, although well clad, had been sufficient to bring on an attack. If he could only keep his hands and feet warm, he told me, he felt safe; but as soon as these parts got cold he was almost sure to have an attack. His countenance was somewhat sallow, and he had been losing strength and flesh.

"With this history, I prescribed a tonic and some extract of belladonna, and urged him to wear fur gloves and over-boots when he went out of doors in the cold. Adopting this plan, he passed through the remainder of the winter of 1864-5 almost free from attacks, and improved in health. If such had not taken place, I had determined to advise him to change his residence during the winter to a warmer climate; but this was, if possible, to be avoided, as it would have involved with him a considerable pecuniary sacrifice.

"During the past winter he has got about much more freely, and in the early part of it was almost free from attacks. In the latter part of it, however, he had been less careful of himself, and suffered accordingly. Sometimes he has averted an attack by going indoors directly he felt it coming on, sitting in front of a fire, and drinking something warm. In April last he wrote to me as follows:—

"My last attack was brought on by riding in the cold, although I did not feel it but very little until I got to the end of my journey, was sitting in a warm room, and had a slight shivering fit. Had a glass of hot sherry-and-water, and in about ten minutes I wanted to make water. Did so, and it was the color of porter. In about ten minutes again, the same irritation as before, and made about a wineglass of water, more blood color, and the same in about another quarter of an hour. Then I became very warm and feverish, and I did not make water again for more than two hours; when I did so it was quite clear. On Tuesday morning last, when I got up at half-past eight, I washed in cold water, and sat down to breakfast. My feet turned cold, and I felt a little queer, so I turned to the fire, and drank a cup of hot tea, and got warm. When I made water about two hours after, it was the color of dark ale, not quite so dark as porter. I always use myself to wash in warm water. I still have the cough when attacked, and until the perspiration comes on it does not leave me. After this I feel faint, and sometimes almost faint off. I always feel cold at the chest before passing blood."

"The other case is that of a gentleman, rather beyond the middle period of

life, who was brought to me by Mr. Acton in December last. The urine passed by the patient at my house was natural in color, and free from albumen; but I was informed that it was occasionally for one or two micturitions highly charged with blood. Mr. Acton had several times seen it in this state. The history disclosed the same connection between the attack of hæmaturia and exposure to cold which existed in my other patient, and I expressed the opinion that I considered it to be a perfectly parallel case."

ART. 76.—*On a singular Case in which a large amount of Iodide of Potassium was excreted in the Urine, with subsequent Disappearance of the Glucosuria which existed at the time.*

By JAMES BRAITHWAITE, M.D. Lond., Leeds.

(*British Medical Journal*, September 8, 1866.)

Dr. James Braithwaite records the following curious case:—

"On the 2d of December, 1864, I was sent for to attend a woman, sixty-four years of age, who complained of feverish symptoms, which she attributed to cold. The skin was hot, the pulse quick; and there were mucous râles all over the posterior part of the chest. She had cough, and expectoration, which, however, was not rusty in appearance. Her urine was free both from sugar and albumen. She soon improved, and went down stairs again, but she did not regain her strength beyond a certain point, and during the early part of January she grew weaker; complained very much of the cold; her skin assumed a dusky shrivelled appearance; her appetite entirely left her; and she was obliged to return to bed. She was quite free from fever, but so feeble that she could hardly remain upright in a chair many minutes at a time. I found that her urine now contained sugar; it was of a specific gravity varying from 1022 to 1032; it was neutral or slightly alkaline immediately secreted; it contained a mere trace of uric acid. This was the state of the urine on the 18th, 19th, and 20th of January. On the 21st, however, the sugar had quite disappeared—there was no trace of it; but, on adding strong nitric acid to the cold urine, a dense and copious, reddish-black, amorphous precipitate was thrown down. This consisted of pure iodine, which was precipitated in a crystalline form by adding nitric acid to the urine, and which gave the characteristic blue reaction with starch.

"On the next day, the sugar again reappeared in the urine in large amount; the specific gravity was 1032; but there was not a trace of iodine.

"On the 23d, the specific gravity was 1041; and there were both iodine and sugar. The following day, there was the sugar alone; nor did any iodine subsequently appear in the fortnight during which I daily examined the urine; but the sugar remained as before. From this time she rapidly regained her health and strength, and I ceased to attend her. On May 1st, I found the urine quite free from sugar; and I have recently found it so still.

"It is difficult to say, with any approach to accuracy, what amount of iodine was passed in the two days on which it occurred in the urine. I am satisfied, however, that it was very large; for the precipitate from four ounces of urine covered the bottom of the porcelain dish, in which it was just contained, to a depth of rather more than a line. I unfortunately did not weigh the precipitate obtained from four ounces of the urine; but it is, I think, under the mark to say that it would fill a drachm measure, and would consequently weigh about twelve grains.

"I found that, three years before, she had taken iodide of potassium for rheumatic pains. This she procured at a druggist's, as she wanted it, in small quantities at a time. She has no idea how much she took. At the time she was passing sugar in the urine, she had none of the usual thirst of diabetes; nor was the urine much increased in amount. At first it could not be measured, owing to her having a little diarrhoea, and her voiding urine at the same time;

but later in the case, when sugar was still present, I found the amount was about forty ounces. It may be objected, that the patient took the iodide on the days on which it was found in the urine; but I think that the large amount, and the fact of its occurrence on two days only, and these days separated by one during which no iodide was passed, preclude this idea. Ten or twelve days afterwards, I taxed her with taking iodide of potassium unknown to me. She most emphatically denied it, but told me at once that she had taken it three years before. The fact of the retention of so soluble a salt, and one which is generally eliminated so readily in the urine, for so long a period, is interesting in itself, and especially so in reference to the temporary diabetes produced, which, however, lasted at least two months. That the salt seemed to be set free by the previous attack of fever, may be explained on the supposition that it was retained owing to the electric affinity with some organ or organs, which affinity was destroyed, owing to change in the polar state from fever. It is well ascertained, that the blood is always electro-positive with regard to the secreted fluids, which are electro-negative. It is possible that in fever the electro-positive state of the blood may be altered or lessened, and that this may account for the diminished secretions."

ART. 77. — *A Case of Single Kidney (Right).*

By Dr. JOHN C. MURRAY, Newcastle-on-Tyne.

(*British Medical Journal*, August 11, 1866.)

E. F., a strong muscular man, of florid complexion, aged sixty-five years, five feet nine inches in height, born in the seventh month of utero-gestation, had always passed less urine, but of a deeper color, than normal. Nevertheless, he enjoyed good health until 1846 (his forty-sixth year); he then first suffered from nephralgic pain in his back, which lanced down the course of the right ureter to the testicle and thigh of the same side, but ceased on his being cupped. From that time, after fatigue and exposure, he frequently felt pain in the right lumbar region, accompanied by dysuria, and sometimes hæmaturia; but never any similar pain in the left side. He was a free but regular liver; had been a blacksmith until 1858, when he received a Government appointment, which had the effect of suddenly increasing his weight from 10½ to 13 stone, at which weight he remained, without variation, until his death.

On the 27th of May, 1866, he was seized with enteritic symptoms in the right iliac fossa, but continued his employment until the 30th, when he was obliged to relinquish duty and obtain professional aid. Dr. Murray was sent for, bled him, and administered appropriate remedies; after which he did very well until the 3d of June. An unfavorable change having occurred on that day, Dr. Murray saw him, in conjunction with Dr. White; but the patient was then so low that their efforts were fruitless to save him. He sank rapidly, and died on the morning of June 4th. At this untoward event Dr. Murray was much surprised, as he had been progressing so favorably. He, however, attributes it to the patient's solitary kidney becoming, from its close relationship to the inflamed colon, too congested for the continuance of its functions.

Twenty-five hours after death, Mr. James Douglas Murray and Dr. Murray found *post-mortem* appearances of enteritis, which had evidently commenced at the caput cæcum coli, and extended along the ascending and part of the transverse colon. The rest of the bowel was in its natural state. The liver was not fatty, or otherwise diseased. Upon taking out the right kidney for inspection, they were astonished at its unusual size and weight; but, thinking it only enlarged from recent fatty degeneration, Dr. Murray made an incision from its convex border to the hilum, to see its internal structure; also cut off a thin slice for subsequent examination. They then proceeded to inspect the left lumbar region, for the purpose of comparing the right kidney with its fellow. In this, however, they were disappointed. No trace of a left kidney, collapsed,

atrophied, or yet rudimentary, existed; nor was there any semblance to renal vessels. The kidneys being occasionally variable in their relations, and often mobile, the whole of the abdominal cavity, and even pelvis, was carefully examined; but the left kidney was wanting. Attention was then directed to the right kidney with increased interest. It was in its natural site immobile, and deeply imbedded in fat. It was of normal form, exaggerated in all its parts, somewhat firmer and less friable in texture than natural. It showed some fatty deposit in its corticle part, but not enough to materially impair its functions. This, Dr. Murray thinks, may be accounted for by hyperæmia, consequent upon its having double duty to perform. It was deeply injected where in relation to the ascending colon, the congestion penetrating its entire diameter. Part of the surface was of its natural color; and its original division into three lobes was perceptible. The investing tunic peeled readily off. After the kidney had been carefully washed and pressed, its proportions and weight, allowing for the quarter of an ounce cut off, were:—

Length, 6 inches;
Breadth, 3½ inches;

Diameter, 2½ inches;
Weight, 10½ ounces.

ART. 78.—*On the Treatment of Addison's Disease.*

By Dr. E. HEADLAM GREENHOW, Consulting Physician to the Western General Dispensary, Assistant-Physician to the Middlesex Hospital.

(*British Medical Journal*, July 14, 1866.)

In a clinical lecture on this subject, Dr. Greenhow observes, that it seems to him unquestionable, from the history especially of a case he details, that Addison's disease, although incapable of cure, is yet in some degree amenable to treatment in respect of delaying its progress, unless the illness has already arrived at its later stages. Owing, no doubt, greatly to our still imperfect knowledge of the nature and causes of the disease, the means of treatment at our disposal are as yet unfortunately scanty. The remarkable asthenia, however, by which the disease is characterized, the constant tendency of the patients to succumb under any powerful depressing influence, and the strong evidence as to the disease being frequently a result of surrounding irritation, are facts which clearly indicate the necessity for tonic treatment and nutritive diet, the avoidance of all causes of depression, and the great value of rest and of such therapeutic agents as may relieve the vomiting and other exhausting symptoms, and tend to invigorate the general health. Prolonged rest in bed, and subsequent avoidance of fatigue, or indeed of much bodily exertion or mental strain of any kind, have formed essential parts of the management in all the cases which have improved for a time under his observation. The use of drastic purgatives should also be scrupulously avoided in these cases. Constipation is more common than otherwise in Addison's disease; but, unless it be very extreme, Dr. Greenhow thinks it better to abstain from interference than to risk the dangerous depression which often follows the administration of aperient medicines; and he instances the case of a young girl who died under his care of Addison's disease somewhat more than a year ago, and whose fatal seizure appeared to have been brought on by the effects of a dose of calomel and jalap given her by her mother.

As regards diet, the only plan is to give nourishing food of whatever kind the patient's stomach can best bear, and this will probably vary more or less in every case; substituting milk, eggs, jellies, oysters, and the like, for the stronger diet of meat or soups, when the stomach cannot tolerate these latter.

For the relief of the nausea and vomiting, ice, soda-water and brandy, chloroform or creasote, bismuth and effervescing medicines, with citrate of iron, have each in turn proved useful in his hands; and, again, each at times has failed to effect any good purpose. After the sickness has abated, decided benefit sometimes attends the administration of chalybeates and cod-liver oil or glycerine.

In two cases he records, cod-liver oil disagreed with the patients; but glycerine, in doses of two drachms, combined with fifteen or twenty minims each of spirit of chloroform and of the tincture of sesquichloride of iron of the *London Pharmacopæia*, has been of great service. Dr. Greenhow speaks positively on this point, because in each case the patients on several occasions having discontinued the medicine as soon as they felt better for it, have then fallen off, and on applying to him and resuming its use, have in a week or ten days began to improve again without any other simultaneous change in their treatment or circumstances.

ART. 79.— *On the Treatment of Hepatic Gravel.*

By DR. SUTTON.

(*Journal of Practical Medicine and Surgery*, May, 1866.)

The curative measures applicable to calculous disease of the liver should be instituted only in the intervals of the attacks of hepatic colic, after all symptoms of local irritation have subsided. Any other course would aggravate symptoms which each require separate attention.

In order to introduce a certain method into the description of the remedial measures applicable in this disease, Dr. Sutton, in the first place, adverts to the treatment of biliary calculi; and, in the second, to the management of the symptoms induced by their presence.

Solvents are the first class of remedies resorted to at all periods.

Alkaline solvents should be preferred to all others. They have effected lasting cures, and sometimes disaggregate the concretions, or cause them to be passed with copious discharges of bile. This crisis is often preceded by severe hepatic colic, induced by the treatment, and it may not be without peril.

Alkaline treatment includes various substances, such as the fixed alkalies, soap-boilers' lye, soda, carbonate of ammonia, medicinal soap, alkaline salts with vegetable acids, tartrates, citrates, &c. The remedy most commonly resorted to is the exhibition of the mineral waters of Vichy, Vals, Carlsbad, Ems, &c. These waters should also be used in baths, and they should be persevered in, at intervals, for several successive years.

Durande's remedy consists in the daily administration of half a teaspoonful or one teaspoonful of the following mixture:—

R. *Ætheris sulphur.* ℥iv.
Ol. *terebinth.* ℥ijss.

This medicine has occasionally been serviceable, but its good effects are not due to its solvent power, the concretions being generally passed with the motions, and the admixture deserves, therefore, to be classed not with solvents, but with evacuants.

Chloroform has also been highly extolled; but its efficacy is very doubtful, and its utility is perhaps confined to its sedative influence.

Aperients are commendable as mechanical agents of expulsion. Frictions, shower-baths, shampooing, and electricity have frequently been resorted to for the purpose of promoting the escape of the calculi. But the methodical exhibition of purgatives, such as castor-oil or sulphate of soda, is far more reliable.

The diet should consist of laxative vegetables, fresh herbs, succory, borage, liverwort, &c.; grapes, acid fruit, and whey are also beneficial.

The use of all greasy substances whatever should be strictly prohibited. Light food, roast or boiled, feculents, lemonade, are appropriate; and exercise should be enjoined less with a view to the increased combustion of fatty matter, than to promote the flow of the bile into the intestine, and thus prevent its stagnation in the gall bladder.

In the treatment of hepatic colic, it is desirable to allay the excruciating pain if possible; opium, even as much as three or four grains, may be fearlessly

prescribed; also subcutaneous injections of muriate of morphia, which are more efficacious than the internal exhibition of the salt.

Belladonna, much recommended by Bretonneau and Lalotte, is less reliable than opium, and should only be used when this remedy is not available. The same remark applies to the *aq. dest. lauro-cerasi*, and to the *tincture of castoreum*.

The inhalation of chloroform is an invaluable resource, when the paroxysms are intense; it not only acts as a sedative of pain, but the collapse which follows anæsthesia is highly favorable to the cessation of the spasmodic contraction of the biliary passages, and to the ultimate escape of the concretions.

(F) CONCERNING THE CUTANEOUS SYSTEM.

ART. 80. — *On the Use of Chloride of Iron in certain Cutaneous Diseases.*

By Dr. BEDFORD BROWN, of Washington City, D. C.

(*American Journal of the Medical Sciences*, April, 1866.)

Dr. Brown is desirous to direct attention to the value of chloride of iron in the treatment of certain acute and chronic affections of the skin. He makes the following observations on the special application of the remedy: —

"Action of Chloride of Iron in Confluent and Malignant Forms of Variola. — As a general thing, though not always, the extent of cutaneous inflammation and suppuration, arising during the progress of smallpox, denote the gravity of type. Hence, in the management of this affection, the condition of the skin becomes the absorbing consideration.

"During an extensive experience in epidemic smallpox, from previous knowledge of the peculiar action of chlor. ferri in diffuse or erysipelatous inflammations, I was induced to test the powers of the remedy in the former affection, on the principle of its influence to control, curtail, or diminish such forms of inflammation. And now, after having fairly tested the value of this remedy in the grave and malignant forms of smallpox, I am prepared to give my testimony in its favor.

"The action of the remedy in all the cases tested was gradual, but apparent and decided; simultaneously modifying and diminishing inflammatory action, and curtailing the processes to safe limits. Of its effects, not the least valuable in this disease is that on the tedious and exhausting suppuration attending it. For the amelioration of this symptom the chloride of iron, in my own experience, is incomparably superior to all other means. And here I will take the liberty of digressing from the main subject, for the purpose of stating a case in testimony of the fact.

"A youth of sixteen had sustained an enormous burn of the right lower extremity, from right lumbar region to the toes, which caused the entire skin of the injured parts to slough, leaving the fascia at some points, and the muscles at others, entirely exposed. When I saw him, three months after the reception of the injury, the denuded surface was covered with enormous masses of granulation, from which flowed forth incredible quantities of purulent matter daily. The patient was suffering from extreme exhaustion and emaciation, and was far advanced in hectic. Large and frequently repeated doses of chloride of iron were prescribed in connection with generous diet, I believe as much as $\frac{3}{4}$ ss every five hours, during the first week. Under this system of treatment the improvement was decided and progressive, and finally ended in complete recovery; and, to my utmost astonishment, there was but little thickening or cicatrization of the skin left, where before there were enormous and unsightly granulations, filled with engorged capillaries.

"To return to the consideration of the treatment of smallpox; the two following cases may be stated as examples of the efficiency of the remedy.

"Mrs. P., in the seventh month of pregnancy, contracted small-pox, three of her children having it at the time. Abortion occurred during the first day of eruption. The case proved to be a most malignant confluent type of disease. The entire surface was covered with eruption, extending over the throat and vaginal surface; the face and tongue were also greatly swollen; the constitutional symptoms were violent. Having, as I now supposed, a favorable case to test the powers of the chloride of iron as an agent to control severe inflammations of the skin, I eagerly embraced this opportunity to put it in practice. The remedy was prescribed in quantities of \mathfrak{zss} every four hours, after the operation of an aperient. Subsequently the variolous pharyngitis becoming very violent, the chlorate of potash was added. Alarming symptoms of general prostration also presenting themselves were counteracted by the free administration of stimulants.

"This method of treatment was persevered in from an early period of the eruption, with but little variation, and in the usual time the patient passed through the different morbid stages triumphantly. It has been my lot to observe but few cases of small-pox of a more alarming character than this. From the enormous amount of eruption I had apprehended copious suppuration. To the contrary, the process of maturation was greatly modified, and attending suppuration proved moderate.

"It may be claimed even for the chloride of iron in small-pox, that it possesses very considerable abortive powers. In that most alarming and grave complication, where the tongue is greatly enlarged, and the powers of articulation and deglutition are almost destroyed, this combination of remedies is valuable.

"Mrs. M., a woman aged fifty-five, contracted a most malignant attack of confluent small-pox, attended with all the usual indications of alarming adynamia, as great vital prostration, feeble and frequent pulse, cold extremities, delirium, dry tongue, and diarrhoea. She was ordered the chloride of iron in doses of forty drops every four hours, with a liberal allowance of alcoholic stimulants and nutritious diet. The system responded kindly to the action of the remedies; the type of disease soon became modified; and the patient passed through the attack with unexpected safety and rapidity. In neither of these cases did the amount of suppuration correspond with the severity of symptoms. Nor was the process of maturation fully developed. These cases are merely a representation of others of a similar character, which were subjected to identical treatment with equally favorable results.

"*Carbuncle*.—Carbuncle, though usually not classed with cutaneous affections, yet is a malady so thoroughly involving the skin and subjacent tissue, as to entitle it to a place among them. The principle of regulating the circulation, or curtailing or diminishing it to an inflamed point—or, in other words, changing the character of *diffuse* forms of inflammation, and converting them into circumscribed forms, and establishing certain well-defined limits for their isolation by internal means possessing very active astringent or hæmostatic properties—is simply analogous in action to that of the same means when applied for the arrest of hæmorrhage. In both instances the agent is brought into immediate contact with the capillary vessels and their contents. The inflammation of carbuncle is peculiarly destructive, with a strong tendency to extend to all neighboring parts, and with no power for the establishment of fixed limits. Hence in treatment, the leading considerations are, to change the diffuse character; establish defined bounds, and promote moderate healthy suppuration; to enable the system to arrest disease, and to throw off sloughing material. For the promotion of these objects no remedy, in my own experience, acts so promptly, when given internally, as the chloride of iron.

"The following case may be accepted as an example:—

"Mr. H., aged fifty-five, of previous intemperate habits, was attacked with large and very dangerous carbuncle on the right shoulder, which presented a disposition to rapid extension and sloughing. The general indications were eminently typhoid.

"Chloride of iron, in quantities of \mathfrak{zss} every four hours, was prescribed, in connection with generous diet and stimulants, with the best effects. It was not long before there was a perceptible decline in the inflammatory action, while a well-defined boundary was being clearly established between the healthy and diseased

parts, and the suppurative process was being modified. A very large slough was eventually thrown out, leaving a cavity behind filled with healthy granulations. His recovery was both rapid and continuous.

“Chronic Pustular and Vesicular Affections.”—After a very considerable experience in the use of the chloride of iron in these classes of affection, I am warranted in the expression of great confidence in its efficacy; not only for the removal of the immediate local affection, but for the correction of those prime causes of a predisposing character. In all stages, but more particularly in the advanced stage of that very annoying and loathsome affection, chronic eczema, when ulceration and suppuration are fully established, and the integument has become thickened, indurated, and laid open with numerous fissures, the chloride of iron treatment is followed by the best results.

“For the full realization of these results, time and patience are requisite; but these are always manifested by diminution of the copious discharges, reduction of cutaneous engorgement, and a better regulation of capillary circulation, and finally by a restoration of the thickened and indurated integument. For both promptness and permanence of action, it is far preferable to the preparations of arsenic, iodine, or mercury in common use. It is particularly adapted to the tender age of children, whose delicate digestive organs cannot always tolerate the latter articles. The action of the remedy is gradual in this class of affection; but in the end success will always crown our efforts, and may be calculated on almost with a certainty, even when all other means have failed.

“Impetigo and Ecthyma.”—One of the most interesting features presented in the action of the chloride of iron is the remarkable influence which it exerts over the formation and excretion of pus, by operating through the channel of the circulation. Hence, through this power to control and regulate the process of suppuration, and suppurative inflammation, it is most admirably adapted to the treatment of this class of chronic affections, in which suppuration is a leading element. The action of the remedy in impetigo and ecthyma is decided and often speedy. Under the administration of the chloride of iron, I have not unfrequently observed the chronic ecthyma of children to disappear in a period of ten days. It also prevents or removes another very annoying feature in this affection, tedious ulceration.

“Phagedenic Affections of the Skin.”—In this type of disease, which are so prone to march on in their progress of destruction, regardless of treatment, the chloride of iron, in my hands, has afforded results superior to all other means. The character of the peculiar destructive ulceration as well as the inflammation becomes changed; the progress of ulceration arrested; and, finally, granulations take the place of sloughs. In that variety of phagedena appearing during the progress of syphilis, and where the preparations of mercury become offensive to the system, and cannot be employed, I find the internal use of chloride of iron and chlorate of potash combined most valuable correctives.

“Both the official *‘tinctura ferri chloridi’* and the solution in water of the salt, have been used by me, but I regard the former as the most efficacious.”

ART. 81. — *On the Treatment of Bromidrosis.*

By Dr. ARTHUR WYNNE FOOT.

(*Dublin Quarterly Journal of Medical Science*, May, 1866.)

Dr. Foot makes the following observations on this subject:—

“The treatment of fetid perspiration, when not due to the use of food or medicines, known to affect the secretion of the skin in this peculiar manner, should be both internal and external. The sudden arrest of the secretion of the skin, which is sometimes the consequence of violent measures to check bromidrosis, has been followed by neuralgia and other constitutional disturbances, whence the complaint was formerly regarded as an endeavor on the part of

nature to eliminate, per cutem, a materia peccans with whose excretion no therapeutical interference was allowable. Like fetor of the breath, it sometimes can be traced to derangement of the stomach and digestion, which having been remedied, perspiration will return to its natural condition, but the causes being generally subtle and various, the treatment will differ with each individual case. Among the remedies most successful is arsenic, highly spoken of by Milton, who also recommends that, in the oldest cases, the hair of the arm-pits should be cut short or pulled out, and these parts, with the folds of groins and the feet, to be washed every day with soap and hot water, and then dusted, after being dried, with rice powder; if any smell remains after this, the free use of chloride of zinc permanganate of potash in lotion should be resorted to. Small pads stuffed with animal charcoal and secured in the arm-pit absorb and deodorize the secretions of this region; and arrangements of the inner clothing, adapted to the exigencies of the case, should be made with the view of facilitating evaporation, as the more confined the perspiration the more concentrated and powerful is the odor. M. Stanislaus Martin (*Bull. de Thérap.*, tom. lxx., p. 143) has contrived a mode of applying charcoal as a local deodorizer in fetid perspiration of the feet. A paste composed of forty parts of powdered charcoal, forty of water, and fifteen of gum, should be thickly spread over a piece of filtering paper, flannel or felt, stretched over a board or paste-board; the paste is then covered over with another piece of paper, which is to be smoothed with the hands so as to remove all asperities; the whole is submitted to compression during an hour, after which the water is to be allowed to evaporate; when quite dry, the sole may be cut out of the required size: the soles, being inexpensive, can be changed once or twice a day if necessary. Gaffard, of Aurillac, recommends the use of a lotion composed of fifteen grains of red oxide of lead and seven and one-half drachms of solution of acetate of lead; his directions are, to pound the oxide of lead in a porcelain mortar, add the acetate by degrees, and keep in a phial, and to shake the bottle whenever the remedy is used. In most cases it is sufficient to apply a few drops once a week to the parts affected. It will be seen that in three of the prescriptions for this complaint given by Paulus Egineta, preparations of lead were used:—**R.** 1. Of liquid alum, two parts; of myrrh, one part;—dissolve in wine and use. **R.** 2. Plunge heated molybdena (oxide of lead) into fragrant wine, triturate with the wine, adding a little myrrh until it becomes of the thickness of the sordes in baths; then use. The commentator remarks: all the authorities concur in recommending for the cure of this complaint a combination of astringents and aromatics; they therefore direct us to mix alum with storax, myrrh, and the like (Paul. rg., Book III. sect. xxxvi.). To render the perspiration fragrant was one of the toilet duties of the upper classes in Greece; it was generally done by the use of an ointment, in which were mixed the leaves of the cypress pounded dry, and the bark of the pine. That the breath also might be very agreeable, Paulus Egineta says:—‘One ought also to remember, in the morning, immediately after being dressed, to taste a small quantity of cassia or savin.’”

ART. 82.—On Syphilitic Acne.

By Dr. TANTURRI.

(*N. Morgagni*; and *British Medical Journal*, May 19, 1866.)

Dr. Tanturri recognizes two forms of acne, the glandular and the follicular; and says that constitutional syphilis may manifest itself in either of them. In the *glandular syphilitic acne*, the inflammation attacks the epithelium, the proper wall of the sebaceous gland, and the neighboring connective tissue. It differs from impetigo or eczema impetiginodes in the circumstances that, in the latter affection, the inflammation is limited to the epithelium of the gland, and yellowish friable, shining crusts are formed on the surface of the skin. These crusts contain a large amount of nucleated epithelium, like that which nor-

mally exists in the sebaceous glands, granular epithelial cells, pus cells, and fatty matter. These elements are found in small quantity in syphilitic glandular acne; but the disease affects the gland and the surrounding dermis more deeply. It may be said that impetigo is characterized by a catarrhal inflammation, and syphilitic acne by a parenchymatous inflammation. Impetigo, Dr. Tantarri says, is not communicable by inoculation; but many experiments have shown that syphilis may be communicated to healthy subjects by the inoculation of the purulent contents of syphilitic acne. In glandular syphilitic acne, there may be recognized a stage of eruption or suppuration, one of retrogression or atrophy, and one of desquamation. Glandular syphilitic acne is generally one of the first constitutional manifestations of syphilis. Its development is slow and gradual; in some cases, however, it may be rapid—as it were acute, and is then accompanied with more or less fever. At the same time with the acute acne, we see erythema, moist papules, and other signs of recent constitutional infection. The chronic form is pretty frequently accompanied by ecthyma, gummata, chronic glandular swellings, periostitis, &c. Acute acne is one of the most obstinate symptoms of constitutional syphilis; the chronic is still more obstinate, especially if the skin have been affected by previous disease. Glandular acne, according to Zeissl, is never met with in newly-born syphilitic children; but Diday has described it without questioning its occurrence at this early age.

The diagnostic characters of syphilitic acne are thus described by Dr. Tantarri:—*a. Acute syphilitic acne.* In the eruptive period, the disease is seated on the trunk and the upper and lower limbs; the pustules are acuminate with a hard base; the suppuration is central and superficial, and the pus has a tendency to dry up. In the suppurative stage, syphilitic acne presents pustules having a large hard base, with a central depression, covered by a small adherent crust. In its third stage, syphilitic acne is characterized by small hemispherical projections, desquamating at the circumference and having concrete pus in the centre. In the fourth stage, syphilitic acne presents small hemispherical projections with an irregular surface; superficial cicatrices, with little pigment; and an abundance of fine scales.

b. Chronic syphilitic acne is localized on the face, neck, trunk, and upper and lower limbs. It is characterized by small pustules with a slightly projecting base, which are developed slowly, and suppurate only at the centre.

Follicular acne presents the characters of a catarrhal inflammation limited to that part of the follicles which traverses the epidermis—that is, the portion lying above the opening of the sebaceous glands. The inflammation of that part of the follicle which is seated in the dermis or on the subcutaneous cellular tissue is, on the other hand, parenchymatous; because the wall of the follicle and the neighboring connective tissue are equally affected, and participate alike in the formation of pus or of new connective tissue. When diffuse, follicular acne may, as well as the glandular form, be accompanied by more or less intense fever. It is generally an early symptom of constitutional syphilis; but Dr. Tantarri has seen it forming a kind of transition between the development of gummata and visceral lesions. The progress of follicular acne is slow, especially if left to itself; its duration is very long. If, at the period of desquamation, the excessive development of epidermic cells continue for a long time, a condition resembling ichthyosis is produced. Follicular acne may coincide with all the tegumentary lesions of the first period of syphilis; and especially with iritis. The eruption may appear on any part of the body except the face; it consists of small pustules with a slightly projecting base, surrounded by a rose-colored areola; the centre is yellowish, umbilicated, and traversed by a hair.

ART. 83. — *On the Treatment of Scabies by Oil of Petroleum.*

By Dr. DECAISNE.

(Journal of Practical Medicine and Surgery, January, 1866.)

From a report published in the *Archives Médicales Belges*, we learn that Dr. Decaisne has used the oil of petroleum successfully in upwards of six hundred cases of scabies. In the great majority of the subjects the disease was completely cured after a single friction, in several after two, and in a very few instances were three or four inunctions required. The method failed in two or three cases only, and sulphuret of lime was necessary to effect a cure.

It has been objected that oil of petroleum is an irritant and produces rashes, but M. Decaisne remarks that the remedy applied with proper precautions seldom causes this unpleasant result.

"At first the frictions were performed with rough towels and brushes, and probably, in order to lacerate the sulci, the oil was rubbed violently into every part of the skin more particularly affected. The inevitable result was the exposure of the derm, and rashes consequent on the mechanical irritation. Military surgeons have, however, found from experience that this is unnecessary, and now the inunctions are more gently performed. But even this plan was open to improvement. It may be a matter of indifference when the skin is healthy to use a brush, a rough sponge, or a hard towel, but in the case of scabies the vesicles are often broken, and the cuticle destroyed, and the softest aquarelle brushes should be used to spread the oil on the integument.

"Since brushes of this description have been used in barracks, the secondary eruptions have all but ceased, and when any have appeared they were the result of an error of diagnosis which cannot always be easily avoided in case of some standing. Prurigo, eczema, impetigo, are often mistaken for scabies, and in these affections the evil effects of repeated and inopportune frictions are readily accounted for."

M. Decaisne also adverts in his report to the disinfection of the clothing. Experiments instituted in the military hospital and garrison at Antwerp have shown the utter inutility of the measures in habitual use. Since they have been discontinued, relapses have become less frequent, and the inutility of disinfection is, therefore, now fully demonstrated, and this expensive procedure, founded on routine and not on scientific experience, should henceforth be abandoned. If it be even conceded for the sake of argument that the acarus can continue to live elsewhere than in its natural *habitat*, the operation would still be unnecessary, because in resuming his wearing apparel the patient exposes to the action of the petroleum with which his person is saturated, the few sarcoptes which may remain in his clothes.

The treatment with petroleum oil thus combines with its great efficacy the additional advantage of economy, because the process of disinfection is dispensed with, and the entire cost of the medication does not exceed for each case three or four centimes.

ART. 84.—*Lichen Ruber of Hebra.*

By THOMAS HILLIER, M.D. Lond. Physician to the Skin Department, University College Hospital; Physician to the Hospital for Sick Children.

(The Lancet, July 21, 1866.)

The following case presents a good illustration of the rare form of disease, answering most nearly to what is called by Hebra *Lichen ruber*:

E. J. G—, a man aged sixty-five years, who has usually enjoyed good health, came under Dr. Hillier's care in University College Hospital in Febru-

ary, 1866. He stated that when about thirty years of age he had a rough scaly patch on the outside of each of the forearms, which remained about a year and then disappeared. He had usually, when well, a rather harsh skin.

About six weeks before admission he first noticed that his hands were stiff and difficult to open and shut; there were also cracks at the bottom of the flexures. About the same time he found that the limbs and trunk became rougher, and in many parts covered with fine white scales; his feet also had become stiff, very dry, and cracked, and the nails of the fingers and toes were much thicker than formerly.

Soon after admission the following notes of his condition were taken:

"Patient complains of nothing except the stiffness of his hands and feet, with soreness from the presence of deep cracks. He can with the greatest difficulty make any use of his hands, from the possibility of closing the fingers upon the palms. There is but little itching. His pulse is of moderate strength, 84 in the minute; his tongue is coated with a white fur, cracked near the middle, and he has a clamminess and sour taste in his mouth; his bowels are regular; his limbs are rather thin.

"*Description of the skin.*—Nearly the whole of his trunk, back and front, was covered with a thin layer of white scales, in places separable without difficulty in fragments about the size of a finger nail, or smaller; the layer of scales was nowhere thicker than stout writing-paper. There is a large collection of scales between the sheets every morning when his bed is made. After taking two warm baths, many of the scales were detached, and the whole front of his trunk, except near the epigastrium, was red and dry, the ridges and furrows of the skin being a little exaggerated. Here and there are small patches of skin of the natural color; around the margins of these are numerous papules, the size of pins' heads, each surmounted with a fragment of cuticle. It is quite evident that all the scales are produced by the desquamation of such papules, closely aggregated until they coalesce. In many cases a small sheath of cuticle is seen around a fine hair as it emerges from the follicle. In the right groin there are confluent papules on a reddened surface. In the left groin there is natural skin, dotted with brownish-white desquamating papules. Thighs:—On the front is seen a layer of scales, reminding one of slight ichthyosis. This extends over the right knee, and partly over the left; the skin of the legs is in part scaly and in part reddened with prominent hair follicles, each surrounded with a small fringe of cuticle. Feet:—The skin is very hard, thickened, and in places very deeply cracked. The toe-nails are four or five times their usual thickness at the free extremity. It is impossible to cut them with an ordinary pair of scissors. The skin of the arms and forearms is like that of the trunk; below the middle of the forearm are seen a great many hairs, broken off short, surrounded by a white fragment of cuticle. The hands are dry, stiff, hard, and deeply cracked, especially on the knuckles, and to a less degree on the palms. The finger-nails are much thickened, and for some distance back from the free extremity are opaque. The cuticle of the hand is separable near the deep cracks in thick fragments of some size; elsewhere it is adherent to the cutis, as in health. Face free from eruption, except the whiskers and beard, where there is fine desquamation around each hair, as is often seen in tinea tonsurans. Some pityriasis of the eyebrows. External ears harsh, covered with dry scales, especially on the outer aspect and near the meatus. Scalp, on admission, swarmed with pediculi; it is now shaved, and presents an appearance as if covered with a layer of flour and soap allowed to dry on. On closer examination there are seen abundant fine scales between, and in many cases sheathing, the hairs. He had an unusual crop of hair for his age. The hairs do not appear to be brittle or loosened in the follicles. Under the microscope no change is seen, except that a few of them exhibit a fibrous fracture. The scales of cuticle are found to be infiltrated by numerous globular bodies, strongly refracting the light, not soluble in ether or liquor potassæ. They look like vegetable spores, but there is no apparent filaments of mycelium."

Bichloride of mercury and arsenic disagreed with this patient, but by maceration of the skin with water-dressing, inunction of oil, and the use of citrate of potash, for two months, he improved greatly.

(G) CONCERNING THE MUSCULAR SYSTEM.

ART. 85.—*On Hypertrophy of Muscle.*

By EMIL STOFFELLA and Prof. W. GRIESINGER.

(Wien. Zeitschr. 1865; Arch. d. Heilk. 1865; Schmidt's Jahrbücher, 1865.)

Dr. Duchenne, in his classical treatise upon localized electrization, has made mention of the occasional occurrence of hypertrophy of muscle in connection with brain disease, and observations of the same kind have since been published by Schützenberger, Spielmann, Jacksch-Kaulich, and Berend. The two most recent writers, named at the heading of this article, have examined into the matter very thoroughly; and Griesinger especially has explained the pathological anatomy of the process.

The case recorded by Stoffella was observed in the clinic of Oppolzer. The disease developed itself quickly, although gradually, in a previously healthy boy of thirteen, who had just recovered from measles, following soon after variola.

At first there appeared only symptoms of weakness of the leg, with which was afterwards associated an increase in the circumference of the muscles, limited almost entirely to the calves, the extensors of the leg, the deltoid and triceps, the sacro-lumbalis, and longissimus dorsi. The hypertrophied muscles were paretic and harder to the touch than natural. Their electric contractility was destroyed, but in the muscles not hypertrophied, with a few exceptions, the electro-muscular sensibility was normal, although somewhat increased in the extremities. The nervous reaction was natural, but in some parts too strong, in response to currents through the spinal cord, and from nervo-muscular currents there was slight diminution. During seven months' treatment, conducted by Benedikt, the irritability gradually decreased, but the other conditions remained unchanged.

Dr. Stoffella considered the malady to be cerebral, with no determinate seat. The want of other brain symptoms was no evidence to the contrary, since these are often absent; nor the loss of electric contractility, which is common in affections of the base of the brain. This loss, therefore, might be taken to indicate that the base of the brain was the seat of the disease, while the fact that the extensor muscles were chiefly affected rendered a central cerebral or spinal affection probable. That the brain was the organ primarily affected appeared likely from the frequent occurrence of muscular hypertrophy in idiocy and paralytic amentia, hypertrophy, especially of the lower extremities, also from the absence of disorder of the bladder or rectum; and lastly, from the general resemblance of the case to Duchenne's description of cerebral paraplegia, in which hypertrophy of the lower extremities commonly occurs, although the electric contractility remains normal.

Professor Griesinger's patient was also a boy thirteen years old, who had suffered since earliest childhood from weakness and slight thickening of the legs.

In his tenth year his condition became much worse than before, the paralysis and hypertrophy increased considerably, and the thighs were attacked from time to time by momentary cramps. In his thirteenth year he was no longer able to walk; and when in bed could not move the legs without great difficulty. The muscles most hypertrophied were those most completely paralyzed—namely, the extensors of the leg, and the flexors of the leg and foot. In the upper extremities also there existed a high degree of paralysis of individual muscles; and of these also the most enlarged were the most enfeebled. They were the deltoids, and a portion of the muscles of the scapula. The forearms seemed to retain their normal condition; the arms participated in the morbid change in some degree. On the trunk the quadrati lumborum and recti abdominis were chiefly affected; the muscles of the head and neck were perfectly sound. The affected muscles became hard and swollen upon any attempt to use them. They acted to the induction current, but only feebly; and the apparently sound muscles

exhibited a diminished reaction. The cutaneous sensibility was generally normal. Upon the lower extremities, and also upon the weakest parts of the upper, there often appeared, especially upon attempts at voluntary movement, a paler or darker rosy flush, accompanied with elevation of temperature; and succeeded, if the part were long exposed, by a bluish marbling and slight coldness. The senses were normal, mental faculties perhaps a little dull, micturition normal, bowels somewhat constive.

As the general character of the symptoms appeared to point to degeneration of the hypertrophied muscles, Griesinger determined to satisfy himself upon the point by the excision of a portion of one of them; and he accordingly cut out a piece of the almost functionless deltoid. This was of a pale yellowish-white color, and was so loaded with fat between the muscular fibres as to resemble common adipose tissue. This was especially true of a transverse section, which differed from adipose tissue apparently only in containing a more abundant connecting membrane.

Griesinger hence concluded that the disease was essentially a myopathic paralysis, that the disease of muscle was largely diffused over the body, that the hypertrophy was only one, although probably the final, phase of its progress, and that the apparently normal, or even atrophied muscles, were really in earlier stages of the same affection.

A treatment of the affected muscles by compression was pursued for four weeks without benefit; but gymnastic exercises, with iodide of potassium, and a diet calculated to arrest fat formation, acted favorably.

At the conclusion of his paper, Griesinger gives a brief account of the cases previously observed, and finishes with the following general statement:—

"There exists, as a rare disease of childhood, an increase of volume of voluntary muscles with diminished contractility. It appears to depend upon a destruction of the primitive muscular fibre by an abundant development of fat. It is most common in the male sex. It may probably be congenital in its origin, but undergoes more rapid development in the second period of childhood, when it may sometimes be said to become acute. It affects chiefly the legs, thighs, and, in the arm, the deltoid. The remaining muscles are often thin and lax, and possessed of little contractility."

ART. 86.—*On Granular Degeneration of the Voluntary Muscles.*

By Dr. L. MERYON, F.R.C.P.

(*The Lancet*, March 10, 1866.)

The following is an abstract of a paper read before the Royal Medical and Chirurgical Society:—

Since 1851, when Dr. Meryon communicated to the Society an account of this disease, the details of which were published in its *Transactions* in 1852, four more cases have fallen under his observation. In one, which terminated fatally in 1859, the post-mortem examination was carefully conducted by Mr. Savory, who, during a searching microscopical investigation, failed to detect a vestige of disease in any part of the nervous system. The disease appears to consist in a gradual but progressive breaking up of the amorphous membrane which envelops the primitive muscular fibres, and of a dispersion of the contained granular matter. After these preliminary observations, Dr. Meryon proceeded to describe the case of a gentleman, aged twenty-two, who was present at the meeting, so that the fellows had an opportunity of examining his present condition. At the age of five years he began to show symptoms of weakness in the loins by a waddling gait; and, in the course of two or three years, he had difficulty in bending the thighs on the body, as in the act of getting up-stairs; next he gradually lost the power of bending the legs on the thighs; and eventually the voluntary motions of the feet and toes were lost also. The morbid action then began to manifest itself in the upper extremi-

ties, and the patient has now no longer the power of raising his arms to his head; but he can bend the forearms on the arms, and he still retains a firm grasp with the hands. The tendency of the disease, however, is to extend itself from the proximal to the distal portions of the extremities, and then to attack the muscles of respiration; but in no case are the involuntary muscles or muscles of organic life affected. The history of one case is the history of all; and on the uniformity of the symptoms and the order of their appearance, &c., Dr. Meryon has attempted to distinguish this form of paralysis from all others which are dependent on lesions of the peripheral nerves or nervous centres—1st, by the centrifugal course of the disease, irrespective of the course and distribution of nerves; 2d, by the entire absence of any symptoms of nervous disturbance during life; and 3d, by the absence of any trace of lesion in any part of the nervous system after death—at least so far as the most careful investigations have extended up to the present time. There is another difference observed in the muscles thus affected, as compared with paralyzed muscles dependent on nervous lesion: it is in the disruption of the sarcolemma and the segregation of the granules which constitute the sarcous matter in the former case; whereas, in the latter, the primitive fibres gradually waste, the transverse striæ gradually disappear, and oil-globules by degrees fill the interspaces of the fibres, and occupy the space which the healthy muscular tissue formerly occupied. Dr. Meryon's patient affirms that both he and his sister, who is also a subject of the disease, have retained the condition in which they were when they began to take arsenic. The gentleman has been under the influence of that medicine a little more than a year. In conclusion, Dr. Meryon adverted to the question of priority of description of this peculiar form of disease. He quoted passages from several of the French medical periodicals in relation to this matter. It is unnecessary to report these, though the following fact may be mentioned—that at the Academy of Medicine M. Cruveilhier referred to Dr. Meryon's plates in illustration of his (M. Cruveilhier's) own diseased muscles, and called the attention of the Academy to a form of paralysis "*non encore décrite*." Dr. Meryon's paper had been published in *The Lancet* more than a year before, and shortly appeared also in the Society's *Transactions*.

PART II.—SURGERY.

SECT. I.—GENERAL QUESTIONS IN SURGERY.

ART. 87.—*A New Method of Treatment, by which Malignant Tumors may be Removed with little Pain or Constitutional Disturbance.*

BY W. H. BROADBENT, M.D.

(*Medical Times and Gazette*, September 1, 1866.)

The attention of Dr. Broadbent was directed to the treatment of cancer under the following circumstances:—In 1864 he was consulted by a lady suffering from cancer of the breast. By his advice, the breast was removed by Mr. Walter Coulson. The disease returned, and was again removed in August, 1865. In May of the present year, a tumor was growing more rapidly than ever near the cicatrices of the former operation. It was decided that no further removal was advisable; and, unless something could be done, a miserable fate was before the patient. The hypodermic syringe is now in the hands of every physician; and it seemed to the author that by it some fluid might be injected into the tumor which might so far alter its structure and modify its nutrition that its growth might be retarded or arrested. After considering the various substances which presented themselves to his notice, he selected acetic acid for the following reasons: 1. This acid does not coagulate albumen, and might, therefore, be expected to diffuse itself through the tumor; and the effects would not be localized at the point injected. 2. If it entered the circulation, it could do no harm in any way. 3. Acetic acid rapidly dissolves the walls and modifies the nuclei of cells on the microscopic slide, and might be expected to do this when the cells were *in situ*. 4. It had been applied with advantage to common ulcerations. On May 18 the first injection was practised. The tumor was about the size of a small egg, and a patch of skin of about the size of a shilling had become adherent to it. The needle was introduced through sound skin an inch or more from the part involved in the disease, and passed to the centre of the mass. About thirty minims of dilute acid (one part of acid to one and a half or two of water) were injected. It gave little or no pain. Next morning a bulla containing dark bloody fluid was found to occupy the patch of adherent skin. May 23.—This portion of skin dry, hard, and horny; the adjacent part of the tumor not so hard. Again injected. The patient residing in the country, was not again seen till June 7, when the piece of skin mentioned was found detached from the surrounding sound skin; and a probe could be passed in all directions to a distance of three-quarters of an inch or more between the tumor and the healthy structures. A little discharge issued from the fissure mentioned. Injected on this date, and again on the 9th, the acid used being rather stronger. It gave a little pain, and swelling and tension of the parts around followed. On June 13, and a few days afterwards, there was a free discharge of fluid and solid portions, with relief of the swelling, &c. No factor whatever attended this discharge, which afterwards diminished greatly. Seen again on June 26, when on external examination, the tumor was found to be much smaller; and, on passing a probe into the opening, it entered a large cavity extending on all sides. Part of the walls seemed free from malignant structure, but at several points a crust of cancerous deposit remained. On attempting to inject, it was found too thin to retain the fluid, which either entered the tissues and gave great pain, or made its way into the cavity. The cavity was stuffed with lint saturated with dilute acid, and the case left in the

care of the family medical attendant, who was to inject as he saw opportunity. July 13.—No impression made on the remaining disease, which had, in the opinion of the medical man, extended somewhat. Carbolic acid was tried for a few days as an application, but discontinued, and the cavity dressed daily with strong acetic acid by the medical attendant, and injections practised daily. This energetic treatment gave much pain, and excited inflammation all round. When again seen by the author on August 4, there had been considerable hæmorrhage, which had been arrested by free application of tincture of sesquichloride of iron. The result, however, was apparently the entire removal of the remains of malignant disease; and when last seen, a healthy granulating surface was left at every point. Three other cases were related by the author. The author further formulated certain conclusions from the experiments detailed, and stated the cases to which, in his opinion, the treatment was not applicable. Guided by his experience, he considered large quantities of dilute acid preferable to stronger acid; and he would not, without great hesitation, attempt the destruction of any tumor which had not involved the skin. His aim had originally been, as stated in the early part of the paper, not necrosis of malignant tumors, but a modification in their nutrition. The theoretical grounds for this hope were, that cancer owed its malignancy to its cellular (to use a nomenclature now almost antiquated) or foetal structure; and that in acetic acid we had an agent which might be expected to diffuse itself through the tumor and reach the cells, and having reached them, to effect changes in their structure, and effect them vitally, while it could scarcely do harm. The results he had brought before the profession at the earliest possible moment. The ultimate value of the treatment he left to be decided by a more extended experience. It was important to use large quantities of dilute acid, and not to have the acid too strong.

ART. 88. — *On the Employment of Galvanism in promoting the Cicatrization of Sluggish Sores.*

By Mr. NUNN, Surgeon to the Middlesex Hospital.

(*The Lancet*, July 28, 1866.)

Mr. Nunn records the following cases. In treating ulcerations he finds it indifferent whether an induced or continuous current be used. He has often used Pulvermacher's galvanic chain with advantage in obstinate sinuses.

CASE 1.—W. F—, aged twenty-three, had benign fungus of the testis, the sequence of strumous abscess. There was a circular perforation of the scrotum on the left side as large as a florin, and it had existed during twelve months. The fungus was about the size of a walnut; there was a free discharge from it of yellowish glairy purulent fluid.

Oct. 12th.—Galvanism of weak intensity (from a single cell), to be applied for five minutes every morning. The effect of the galvanism was most remarkable: the fungus receded, and the edges of the perforation contracted over it, after a few days.

27th.—A slightly stimulating lotion of nitrate of silver was ordered (half a grain in the ounce of water).

30th.—The solid nitrate of silver was brushed round inside the sore, which had now nearly closed; and nitric acid and decoction of bark were ordered to be taken three times daily.

Nov. 6th.—The patient was discharged, the sore being quite healed.

CASE 2.—H. D—, aged five years, was admitted with an unhealed sinus, probably caused by caries of one of the cuneiform bones. The swelling was chiefly on the inner side of the foot, in front of the instep. The tarsal end of the metatarsal bone of the great toe was enlarged. There was the history of a sprain; and the child's parent believed the disease of the foot to be due to the sprain. An incision had been previously made in the part, and some unhealthy bone scooped away by another surgeon. The child had a scrofulous appearance, and its belly was tumid.

Mr. Nunn ordered nitric ether in half-drachm doses, with syrup, three times a day — a medicine which he believes to exert the most useful influence in promoting the nutrition of cachectic children, and to have the power of diminishing that distention of the abdomen so characteristic of deficient nutrition from sluggishness of the mesenteric glandular system. Iodide of potassium ointment was also prescribed to be rubbed into the belly. These measures were carried out from Jan. 27th to Feb. 11th, without much change in the appearance of the sinus, when galvanism was ordered to be applied for five minutes three times a week. The effect of the galvanism was at first to diminish the angry redness of the part, and also the amount of discharge from the sinus. By the end of the month the sinus had scabbed over, and the patient was discharged on the 7th of April convalescent.

CASE 3.—Jane D—, aged twenty-two, admitted Dec. 12th with angular curvature of the spine. She was healthy up to the age of fourteen years, when she began to suffer from rheumatic pains “all over her.” There was at the date of admission an opening in the upper third of the right thigh, about the apex of Scarpa’s triangle. Four years since there was some swelling and stiffness of the thigh; two years since, at the seat of the opening, a swelling as large as an egg. The spine projected in the lumbar region; there was some tenderness on either side of the spinous processes; and occasionally at night, and at change of weather, pain in the part was severe.

Iodide of potassium, in three-grain doses three times a day, was ordered; and directions were given to double the dose in the event of increase of pain at night. Iodine paint to the back.

On the 26th, galvanism was directed to be applied twice a week, the current being passed from the thigh to the spine. This was continued until February 13th, when the patient was discharged much improved. The sinus in the thigh had nearly closed.

CASE 4.—Agnes D—, aged four, admitted Nov. 14th, having a superficial strumous ulcer, with somewhat excavated edges, surrounded by small pustular elevations, on the dorsum of the left hand. There were similar sores on the foot and face. Iodide of potassium in one-grain doses twice a day, with cod-liver oil, were prescribed.

On the 17th, galvanism for five minutes was ordered to the foot, twice a week; on the 28th, to the hand and face also. This was followed almost immediately by a change to a healthy action in the sores. The patient was discharged convalescent January 9th.

ART. 89.—On the Treatment of Wounds by Ventilation.

By M. B. BÉRENGER FÉRAUD.

(*Bulletin de Thérapeutique*, Jan. 31, Feb. 15, 1865; *British and Foreign Medical-Chirurgical Review*, July, 1866.)

This method of treating wounds consists in leaving small wounds exposed to the air, and in acting upon larger ones by means of the domestic bellows for a period varying from five to twenty minutes every two, three, or four hours, according to the amount of discharge and moisture that may be present. The object is to secure the formation of a crust over the surface of the wound, under which cicatrization takes place far more rapidly than when the surface is not so protected; and the applications must be sufficiently frequent and prolonged to maintain this crust of a certain thickness. When the crust acquires a degree of rigidity, however, it must be displaced and another formed; and when the discharge is very abundant, the alcoholic dressings, now so much in vogue in the Paris hospitals, should for a while precede the ventilation. The influence of this last in improving the condition of the wounds is almost immediate, a disposition to cicatrize and a diminution of the discharge soon being apparent. This mode of treatment, according to its originator, M. Bouisson, of Montpellier, may determine sedative, astringent, siccative, antiseptic, and tonic action; but it is by no means indicated in all kinds of wounds, and especially in those whose depth is great in proportion to their superficial extent. Thus, it is not

fitted for penetrating wounds, as those of a fistulous character, or characterized by anfractuositities. Abundant suppuration is a further contra-indication, except, indeed, when this is due to a mere hyper-secretion dependent upon local or general atony or perverted nutrition, and to the lessening of which alcoholic dressings supply a useful preliminary to the employment of ventilation. In slight burns other means may be preferable, as of more convenient application; but in those of the second and third degree, arrived at the stage of a simple denuded wound, ventilation may advantageously supersede cotton and other impermeable applications. In resorting to this means for ulcers, we have to attend to the constitutional cause of these, as well as to render them by various local applications apt for cicatrization before we resort to ventilation.

Among the secondary advantages of this mode of treatment may be mentioned its simplicity, its easy applicability by the patient or his friends, its economy and its cleanliness. It substitutes a dry for a moist surface, diminishes the chances of septic decomposition, and lessens the chances of infection of the surrounding atmosphere.

ART. 90.—*Use of the Acupuncture Needle in the Discovery of a Pistol-Ball.*

By Dr. GORDON BUCK.

(*New York Medical Record*, June 15, 1866; *American Journal of Medical Sciences*, July, 1866.)

At a meeting of the New York Pathological Society, Dr. Buck stated that he had successfully employed the acupuncture needle in detecting the ball in a case of gunshot wound in a man who, while carrying a pistol in his fob, the weapon was accidentally discharged, and its contents were lodged into the groin, immediately below Poupart's ligament, and two inches outside of the femoral. On introducing a probe into the wound, it followed a track over the inner condyle and a little above it, and at its bottom a firm body was encountered that was about the size and shape of the missile that was supposed to have been lodged there. This body could be slipped within a certain limit, and its movement would cause pain. Presuming that it was the ball, there was not certainty enough in the diagnosis to warrant an extraction until the acupuncture needle was used. This was passed down in the situation of the deep-seated lump through the tissues, and encountered the foreign body. By certain manipulations it was found to escape from the point of the instrument and roll aside, which fact left no doubt in the mind of the presence of the projectile at that point. It was then cut down upon with a narrow-bladed knife, and removed without difficulty. Dr. Buck remarked that his attention had been first called to the needle by seeing a published account in some of the medical periodicals of its use by a Scotch army surgeon, whose name he did not recollect. Dr. Buck also stated in this connection that he had employed the same procedure with success in discovering the existence of a calcareous body impacted in the prostate gland. The needle in this instance was curved, and was introduced into the gland upon the finger as a guide. The needle is very fine, and has a trocar point in order to facilitate its entrance into the tissues.

ART. 91.—*The Results Attending the Removal of the First Growth of Cancer.*

By Mr. JOHN BIRKETT, Surgeon to Guy's Hospital.

(British Medical Journal, September 20, 1866.)

What advantage does a patient obtain in submitting to the removal of a cancerous tumor? The answer which Mr. Birkett gives to this question is too full of interest to be curtailed. He writes:—

"The facts upon which to base a reply to this inquiry are derived from the investigation of a hundred and fifty cases carefully recorded by myself; and although I have not always performed the operation, I have seen the patient and examined the growth after its removal. A majority of the patients are dead; for it should be borne in mind that this collection of cases was commenced eighteen years since, and that not a little difficulty arises in being able to follow out patients who survive several years.

"Also, it must be stated, that I have not made any selection of the cases with the view to uphold or support any particular statement. The sufferers who succumbed to the disease were placed in the order in which death occurred, and therefore some allowance should be made in those cases in which death ensued very rapidly after the development of the disease appearing on the tables in greater numbers than those which survived the same thing many years.

"The above consideration, as well as others, render what are termed statistical tables, and deductions therefrom by means of averages, most fallacious guides to treatment.

"Table A is arranged to show the length of time during which 150 patients were free from any indications of the local recurrence of the disease after the removal of the first growth.

A.—Table showing the Length of Time during which 150 Patients were Free from Indications of the Local Recurrence of the Disease after Operation.

	Cases.
Before the expiration of the first year	87
Between expiration of first year and close of second	15
" second and third	7
" third and fourth	7
" fifth and sixth	5
" sixth and seventh	2
" seventh and eighth	1
" eighth and ninth	3
" ninth and tenth	1
" tenth and eleventh	3
" fourteenth and fifteenth	1
" fifteenth and sixteenth	1
Sixteen years	2
Patients died free from local disease in parts first affected (see table)	15
	<hr/> 150

"Before the expiration of the first year, eighty-seven patients showed signs of a new development of the growth, either in the portion of the mammary gland not removed, the integuments in the neighborhood of the cicatrix, in that structure itself, or in the axillary lymphatic glands.

"After the expiration of the first year, and before the conclusion of the second, fifteen patients showed that a cancerous growth was again developed in one or other of the regions above mentioned.

"Now, this large proportion of the cases in which recurrence occurred, might be taken as a significant fact to demonstrate that the cases submitted to operations were badly selected; that, indeed, an operation was scarcely justifiable. But, in many of the cases, the operation was undertaken in the hope of removing a source of great local pain and mental distress; of alleviating the misery and to abate the annoyance attending an ulcerated and sloughing surface, and at the earnest solicitation of the sufferer.

"In some, I confess, little, if any, advantages were gained. In others, although life was not prolonged by many months, the existence of the individual was rendered more tolerable, since the attendant circumstances before described were sometimes absent. Life was decidedly prolonged in a few cases, in which it was rapidly ebbing in consequence of repeated hemorrhages and deeply sloughing masses.

"Further, we may be allowed to suggest that many of the cases in this category might have been operated upon at a much earlier period after the discovery of the first growth, and with every probability of a happier result. But, in hospital cases, and a large majority were of that class, it too often happens that patients apply to such institutions as a last resource only.

"We may now turn to a somewhat brighter picture. To be free from such a disease as cancer for periods of time extending between three and sixteen years, is a fact surely sufficient to justify almost any means to accomplish such a desirable end. The risk to life attending the operation is not great, and now much of the horror of such a proceeding is mitigated by the employment of anæsthetics.

"In the wards of a hospital, even where the chances against the recovery of the patient are greater than in private practice, I calculate the death-rate at only seven per cent. During the last seventeen years, two hundred patients have been operated upon by my colleagues and myself in Guy's Hospital. Either the whole or a portion of the breast-gland was removed on account of a carcinomatous growth. All of these recovered from the effects of the operation, with the exception of fourteen, who survived it between three and thirty-six days only. It must be admitted that the operation was more or less the exciting cause of the disease which terminated life. These fatal diseases were erysipelas, followed by bronchitis; inflammation of the pleura, terminating in effusion; pyæmia; hæmoptysis; and vomiting; in fact, the too common causes of fatal complications after operations upon the poorer classes, inhabitants of large cities.

"But in private cases the mortality is so trifling that, admitting the risk to which every person submits who undergoes any operation, I am inclined to calculate it at not more than three or four per cent. I have lost only one patient, of forty-one cases operated upon for cancer.

"To proceed with the remaining cases. Of the patients, thirty-three in number, who survived the operation without any local recurrence of the cancer for periods varying between two and sixteen years, assuredly many of them must have died of the complaint within those periods; and all of them would certainly have been compelled to endure the mental anguish, if not the local suffering, accompanying the existence of this terrible malady, assuming that they had survived equal periods.

"Lastly, fifteen of the patients died without showing external signs of recurrence of cancer in the region first affected.

B. — Cases in which the Cancer did not Reappear in the part first affected with that growth.

Cases.	Survived operation.	Cause of death. *	Condition of local disease at operation.
1	6 months	Hepatic disease	Integuments infiltrated
2	10 months	Thoracic disease	In same condition
3	11 months	Hepatic disease	As above
4	13 months	Carcinoma in calvaria	Mammary gland only infiltrated
5	15 months	Disease of ovary	As above
6	2 years	Cerebral disease	Integuments infiltrated
7	2 yrs. and 2 months	Hepatic disease	Integuments infiltrated and ulcerated
8	3 years	Thoracic disease	Mammary gland infiltrated only
9	4 yrs. and 3 months	Cerebral disease	Same as above
10	6 years	Thoracic disease	Integuments infiltrated
11	6 years	Cerebral disease	Integuments infiltrated and ulcerated
12	6 yrs. and 6 months	Exhaustion	Mammary gland infiltrated
13	6 yrs. and 8 months	Thoracic disease	Integuments infiltrated
14	10 yrs. and 6 months	Cachexia	Integuments ulcerated
15	11 years	Cachexia	Mammary gland infiltrated

"The Table B shows the length of time each individual survived the operation. This was between six months, the shortest time, and eleven years, the longest. In another column is stated the cause of death in each case, which was the development of cancerous growths in the viscera of either the cranium, the thorax, or abdomen, as determined by well-marked indications during life or by *post-mortem* examinations.

"I have introduced, in the same table, as brief a description as possible of the condition of the local disease at the time of the operation; and it should be noted that it had made considerable progress in some of them. The integuments were infiltrated with cancer; in some, ulceration of the surface existed. Under these conditions, we are justified in assuming that some of the patients would speedily have fallen victims to the ravages of the complaint, and that all must have endured more or less of the suffering accompanying its progressive stages.

"By the removal of the growth, these fifteen patients were exempt from the misery inseparable from the activity of the local disease.

"Let us next inquire if the life of individuals afflicted with cancer of the breast is prolonged by the removal of the part first involved by the disease.

C.—Table to show the Number of Years 150 Patients survived the Discovery of the Disease after the Removal of the First Growth.

Under 1 year	8	Above 10 years	2
Above 1 "	24	" 11 "	2
" 2 "	38	" 12 "	1
" 3 "	17	" 13 "	1
" 4 "	21	" 14 "	2
" 5 "	7	" 15 "	1
" 6 "	5	About 23 "	1
" 7 "	10	" 29 "	1
" 8 "	4	" 32 "	1
" 9 "	4		

"I have arranged Table C to show the number of years one hundred and fifty patients survived the discovery of the disease after the removal of the first growth. Rather more than one-half died before the expiration of the fourth year, or in the ratio of fifty-eight per cent.; the majority dying before the completion of the third year.

"Thirty-three died before the expiration of the seventh year, or in the ratio of twenty-two per cent.

"Eighteen died before the conclusion of the tenth year, or in the ratio of twelve per cent.

"Twelve survived about ten years, or in the ratio of eight per cent. One person lived about thirty years after the discovery of the disease.

"In order to form some comparison between cases subjected to the above treatment, and those in which the disease was allowed to pursue its natural course, with the exception of using local palliatives and constitutional measures, I calculated the average duration of life of a hundred patients.

"Fourteen of these patients died within the first year after the observation of the disease; three survived its discovery above ten years, two of them having lingered under its slow progress about twenty-six years.

"The average duration of life I believe to be about three and a half years.

"Of the cases, then, which have fallen under my observation, it is quite certain that the longest survivors have been those from whom the first growth was removed.

"Whether the duration of life was really essentially due to the removal of the first growth, I would not venture to assert dogmatically; for there are many collateral circumstances which require to be taken into consideration, for which the time is insufficient upon the present occasion.

"In conclusion, I trust that I have demonstrated to my sceptical professional brethren that a certain proportion of cancer patients can receive benefit by submitting to the removal of the first growth of the disease; and that the benefit derived from the operation is twofold — viz., 1st, prolongation of life; 2d, exemption from disease for a considerable period of time in many instances."

ART. 92.—*Treatment of large Abscesses by Drainage.*

By Dr. O'FERRALL, Surgeon to St. Vincent's Hospital, Dublin.

(*Medical Press and Circular*, June 6, 1866.)

R. R—, aged nineteen, by occupation a laborer, residing at Chapelizod, was admitted to St. Vincent's Hospital on the 17th of April, 1866, under the care of Dr. O'Ferrall. It appeared that on the previous March 17th, he fell on his hip, and at once went to a hospital where he was treated for the injury. Some days previous to leaving hospital he complained of severe pain in the left shoulder, to which was applied a liniment, and he was discharged. Three days after he left the hospital referred to he sought admission into St. Vincent's Hospital. At the time of his admission he was observed to have a large tumor situated on the left scapula extending backwards beyond the vertebral border, and engaging both supra- and infra-spinous fossæ; the prominence of the spine being completely obliterated, and extending below and without as far as the lower margin of the latissimus dorsi. There was great increase in the breadth of the shoulder with an oedematous hard swelling occupying the outer portion of the supra-clavicular fossa. At the time of Dr. O'Ferrall's first visit (22d of April) it could be felt to fluctuate, and it appeared that the patient had rigors twice since his admission, and experienced pain of a more or less acute character.

On the 26th April Dr. O'Ferrall inserted a drainage tube at about the level of the spine of the scapula, carrying it downwards to a little below the angle, when it emerged, and through it a considerable quantity of healthy pus was discharged, with great relief to the patient. The discharge gradually diminished.

The patient was treated with wine and bark, and when Dr. O'Ferrall last saw him on the 14th of May, the tube had been withdrawn, and the tumor had completely disappeared. At the same time it was noticed that the man's general health was much improved by his stay in the hospital. At no period was there an offensive odor from the pus. There was a slight movement of the tube made once each day to prevent the aperture becoming clogged, which necessarily gave him great pain when withdrawing the tube. Dr. O'Ferrall made use of a simple manoeuvre — viz., firmly fixing the elastic tube between

the forefinger and thumb of one hand, while withdrawing with the other hand the loose end; by this means the length of the tube is increased, while its calibre is diminished so as to enable the surgeon to draw it through its track without exciting the slightest pain; and if desirous of removing the tube, by suddenly letting go the end held between the finger and thumb, by its elasticity it passes with a sharp click through the track, without giving the least pain.

Referring to the practice of drainage in large abscesses, Dr. O'Ferrall remarked that two facts of practical importance were illustrated by this case.

1st. That during the progress of treatment no offensive odor of any kind in the matter flowing through the tube could be detected. This he attributed to the perfect ventilation by the perforated tube and the constant escape of the pus as rapidly as it was formed, and before it would have time to undergo any change by decomposition.

2d. The employment of a simple mode of withdrawing the tube without causing the pain which the least movement in the daily dressing of the part had previously occasioned. The tube is held at both extremities, and extended by traction so as to diminish its calibre to the smallest possible amount. One extremity is then suddenly let loose, and the tube is found to have escaped from the wound with a sharp click and without the production of pain.

SECT. II.—SPECIAL QUESTIONS IN SURGERY.

(A) CONCERNING THE HEAD AND NECK.

ART. 93. — *On the Sub-conjunctival Injection of a Solution of Chloride of Sodium to promote the Absorption of Corneal Exudations.*

By Professor ROTHMUND.

(*Mon. Bl. für Augen-heilk.*, 1866; *Schmidt's Jahrbücher*, 1866.)

It is well known that a great variety of means have been used to promote the absorption of corneal opacities left behind by parenchymatous keratitis; and that the most successful of these have excited some degree of inflammation. Prof. Rothmund has lately used for this purpose a solution of common salt in distilled water (3j to 3j). A small quantity of this solution, previously warmed, has been injected under the conjunctiva, by a syringe with a slightly curved point, introduced about a line and a half, or two lines, from the margin of the cornea. The injection is made very slowly, and produces a *quasi* chemotic swelling around the cornea. This swelling is absorbed in about five or six hours, under a compressive bandage. The inflammatory symptoms produced subside in a few days; and the cornea begins to clear from the periphery towards the centre. After three or four weeks the injection may be repeated; and after from three to five injections it is usually possible to make an artificial pupil. Further experience of the value of this method is required.

ART. 94. — *On Detachment of the Retina: its Causes and Treatment.*

By Mr. HAYNES WALTON.

(*British Medical Journal*, June 16, 1866.)

In a paper read before the Harveian Society, Mr. Walton observed that detachment of the retina from the choroid might be the result of an accident, such as a blow on the eyeball or about the orbit; but for the most part it could not be traced to an injury. It was the physical effect of fluid effusions of

various natures, chiefly, however, serous, or of firm solid deposits, or of malignant disease. It was the class of cases produced only by the pouring out of serum, "dropsy under the retina," that he should consider. This separation of the ocular tunics was of common occurrence, and was one of the greatest mechanical changes that occurred in the eye, and yet was one without any external or objective symptoms. It was only by an ophthalmoscopic examination that the true nature of the case could be made out. There were undulating folds of the retina, or bulging of the retina in a tense form, the color of the membrane varying from a light bluish or grayish tint, to a dead white, which was characteristic of old detachment. The recognition of the retinal vessels removed doubt of the diagnosis. The detachment might be partial, destroying sight to a limited degree, or general, totally annihilating vision. The tendency in the affection was always to become worse, so that a worse class of cases could not occur. There was no opportunity for the natural reparative power. It was Mr. Walton's conviction, however, that there was scope for treatment and opportunity for success; and that this consisted in general and local measures; but the treatment should be commenced early, or little benefit could be expected. He deprecated the idea that a mere operative proceeding could be curative, dwelt on the pathology of the affection, and showed that it was the result of morbid actions taking place within the eye, of an inflammatory nature, and mostly of an asthenic form. The retina and the choroid being but slightly connected, there was little or no resistance to extravasation, which quickly gravitated from one part to another. The separation of the retina after an accident he explained in the same way, there being first the inflammation and then the exudations between the retina and choroid. It was characteristic of the affection to proceed painlessly, and without any other symptom but that of impaired vision, the peculiarities of which were carefully pointed out. A remarkable case was given in illustration. A patient was brought to Mr. Walton with detached retina in one eye of old standing, and inflammation of the interior of the other eyeball producing among its effects haziness of the vitreous humor, so that the fundus of the eye could not be seen. After general treatment the vitreous humor cleared, the shreds and floating particles in it gradually disappearing, and there was discovered partial detachment of the retina. With all this morbid action in the interior of the eye, there was not the slightest trace of disease in any of the external tissues. This was just the kind of case, Mr. Walton said, that he had been looking for. In the one eye certain conditions had been developed, that left, as one at least of its effects, a separated retina; in the other was to be seen that intensity of internal action which, in all probability, was a parallel of what had taken place in the first, and which in the end separated the retina. He operated on both eyes, and evacuated the sub-retinal fluid. He found it necessary to operate a second time on the eye recently affected, at the interval of a month, having up to that period still continued the general treatment, which consisted of small doses of mercury with hyoscyamus, and a mixture of iodide of potassium with cinchona. The result was, in the eye with the acute disease, the restoration of useful vision. In that which had been attacked two years before, no benefit ensued. Mr. Walton gave a detailed account of his method of operating, which was by puncturing the sclerotic and leaving the retina untouched, the fluid escaping between the sclerotic and conjunctiva. He assigned several reasons for preferring this to puncturing the retina with an endeavor to cause the effused fluid to escape in the vitreous humor, as practised by the Germans. He gave the general result of many cases in which he had adopted this simple treatment. In the mass of them no benefit resulted, and indeed he expected little, because they were chronic cases. In some recent cases, however, he had not the slightest doubt of having an amount of useful vision.

ART. 95.—*On Disconnection of the Incus and Stapes ; its Effect upon the Function of Hearing, and its Treatment.*

By JOSEPH TOYNBEE, F.R.S., Consulting Aural Surgeon to St. Mary's Hospital, &c.

(*Proceedings of the Royal Medico-Chirurgical Society ; Medical Press and Circular*, June 20, 1866.)

The author begins by some observations on the anatomy and physiology of the chain of bones. He gives an account of the tensor tympani ligament, whereby the membrana tympani and the chain of bones are kept in a naturally resilient state. And he then shows that the function of the chain of bones is twofold:—(1) to transmit sonorous vibrations from the drum to the expansions of the auditory nerve; (2) to act as the analogue of the iris in the eye by adapting the labyrinth for the reception of sonorous vibrations having varying degrees of intensity. In proof of the first-named function, the experiments of MM. Sissajous and Dessains are cited, by which faint undulating lines were produced by a slender style attached to the base of the stapes during the vibration of the drum by sonorous undulations. In proof of the second function of the drum, the fact was cited that during the act of listening the stapedius muscle relaxes the membrana tympani and the membrane of the fenestra rotunda; on the contrary, when a loud sound is expected, the tensor tympani muscle draws tense the membrana tympani and the membrane of the fenestra rotunda.

The pathological conditions alluded to in the paper are:—(1) simple disconnection of the incus and stapes; (2) disconnection of the incus and stapes, the long process of the incus being absent.

1. The author shows that simple disconnection of the stapes and incus, if attended with no other lesion, is not productive of any appreciable deafness, inasmuch as the tensor tympani ligament is able to keep the two bones in contact, and the action of the tympanic muscles is not interfered with. But if the membrana tympani or its ligament is relaxed, in addition to the disconnection of the stapes and incus, then the function of hearing is interfered with, and often only to this extent, that the patient can hear only when the voluntary act of listening is performed—that is to say, when by voluntary muscular effort the incus is held in contact with the stapes. In this class of cases, gentle pressure on the outer surface of the drum by any resilient body restores the natural power of hearing, and the distress produced by the necessity of constant listening is quite overcome.

2. But if the membrana tympani or its ligament is much relaxed, then no voluntary effort can bring the stapes and incus into contact, and great deafness is the result. This deafness is also remedied by the application of an artificial membrana tympani, which, gently pressing upon the outer part of the chain of bones, keeps the incus and stapes in contact.

3. This disconnection of the incus and stapes also occurs in conjunction with partial or complete loss of the long process of the incus, the membrana tympani being entire. The treatment in this class of cases consists in pressing inwards the membrana tympani so as to place its inner surface in contact with the head of the stapes, and to retain the two structures in contact.

The lesions above referred to also take place when the membrana tympani is perforate. When there is disconnection of the incus and stapes, together with a thickening of the mucous membrane or the ligaments of the articulation, the treatment consists in keeping up gentle pressure upon the outer surface of the long process of the incus; when the long process of the incus is absent, the pressure must be upon the head of the stapes. In order to exercise gentle pressure upon the ossicles and still to allow the muscles to move them, the author has recently suggested a new kind of artificial drum, in the shape of a small globe of india-rubber containing air.

ART. 96. — *Night-Blindness.*

By J. W. HULKE, F.R.C.S.E., Assistant-Surgeon to the Middlesex Hospital and Royal London Ophthalmic Hospital.

(*Medical Times and Gazette*, June 16, 1866.)

Mr. Hulke records a few cases selected from his note-books for the purpose of illustrating the two conditions of which night-blindness is the common symptom.

The first is exhausted sensitiveness of the retina caused by prolonged exposure to glaring light, which makes the bacillary layer of the retina incapable of being sufficiently stimulated by twilight for perception.

This affection is common amongst sailors in tropical seas. Men suffering from it cannot see to do their work on deck after the sun goes down, except perhaps at full moon when the sky is clear; while in a well-lighted cabin their visual acuity is not much diminished. Mr. Hulke has examined many cases of this kind without finding any organic change appreciable with the ophthalmoscope. After a few days, or at most a week or two, ashore, the night-blindness disappears, but subsequent attacks are not unusual when those who have once suffered are exposed to the same cause.

Rest and tonics comprise the treatment. The very frequent occurrence of night-blindness in men suffering from scurvy has led to the idea that here it may depend on purpura of the retina, but he has never yet seen this, though he has often looked for it in night-blind scurvy patients. Their liability proceeds from their feebleness, in which the retina shares.

The second condition of which night-blindness is a symptom is a contracted state of the visual field, depending on structural alterations in the choroid and retina, characterized by very definite ophthalmoscopic signs. The bottom of the eye is overlaid with dots and clusters of black pigment scattered and massed, and often grouped along the course of the retinal vessels. The pigment is a derivative of the choroidal epithelium, and lies on the surface of the choroid, and also among the withered retinal tissues. Between the clusters the epithelium is wasted, and the other tissues of the choroid are seen to be atrophied. These alterations progress from the front of the choroid and retina towards the optic nerve, and they are attended with a corresponding diminution of the area of the visual field, which becomes so small that the patient has not a general view of surrounding objects and stumbles over them at night; though so long as the centre of the retina remains unimplicated, the smallest type can be read in the contracted field. Ultimately, the optic nerve grows anæmic, the entire retina is involved in atrophy, and these final changes are marked by diminution of visual acuteness ending in blindness.

The disease has been named *Retinitis Pigmentosa*, and the name may be retained if we remember that the primary seat of the affection is the choroid. Usually it begins in early life, and it runs a very slow course, protracted through many years. Liebreich, who devoted much time to its investigation, found that about half the sufferers from it were the children of blood-relations. Hitherto Mr. Hulke's own inquiries on this point have always met with a negative answer. The disease is frequently traceable to inherited syphilis, and it often affects several members in a family.

ART. 98.—*On Fractures of the Superior Maxilla.*

By Dr. A. GUÉRIN.

(Archives Générales de Médecine, Juillet, 1866.)

Dr. Guérin discusses this subject in reference to the displacement or not of the fractured bone, and he suggests a new method of distinguishing the fracture when displacement has not taken place. He holds that there exists fractures of the superior maxilla without displacement, and that in such cases mobility and crepitation are difficult to discover. But he considers that pain produced by pressure over the internal plate of the pterygoid apophyses is a pathognomonic sign. He believes also that it is more easy at the end of several days to discover the mobility of these apophyses than of those of the maxilla. Lastly, he states that the ascending apophysis of the palatine bone is necessarily broken, and that he possesses a preparation showing that fracture of the vertical plate of the ethmoid occurs coincidently with fracture of the maxilla and pterygoid apophysis.

ART. 98.—*On Ulceration of the Internal Carotid consecutive to Caries of the Petrous Portion of the Temporal Bone.*

By M. JACQUES JOLLY.

(Archives Générales de Médecine, Juillet, 1866.)

From an examination of this subject, M. Jolly concludes that:—

1. Ulceration of the internal carotid, consecutive to caries of the petrous portion of the temporal bone, is a very rare accident, in comparison with the great frequency of this malady. It is relatively frequent, on the contrary, in relation to the ulceration of other arteries.

2. Of all the vessels in the vicinity of the petrous portion of the temporal bone, this artery is most frequently injured.

3. The diagnosis of the perforated vessel is often difficult, but an attentive study of the hæmorrhages, their mode of production, and of the blood which is effused, will often be sufficient to remove any doubt; and in difficult cases the physician will derive useful information from compression of the carotid. If this should arrest the flow of blood, the hæmorrhage arises from the artery; if, on the contrary, the flow continues, uninfluenced, it arises from the veins.

4. The prognosis of this complication is always extremely serious, because it renders a grave surgical operation necessary which does not always succeed.

5. When ulceration of the internal carotid has been recognized, the surgeon has but one resource, ligature either of the internal or common carotid as early as possible.

ART. 99.—*A Case of Dislocation of the Jaw during Laryngoscopic Inspection.*

By Dr. GUIGNIER.

(Union Médicale de la Gironde; Journal of Practical Medicine and Surgery, 1866.)

One of Dr. Guignier's patients, a lady aged thirty-eight, suffering from tuberculosis and laryngeal ulceration, on two occasions, at a month's interval, dislo-

cated her jaw, while Dr. Guignier was applying caustic to the glottis, the maxillary being completely luxated forward at the conclusion of the operation. The displacement was immediately reduced in the usual manner by downward pressure at the roots of the coronoid process behind the molar teeth.

This kind of luxation, which disagreeably impresses the patient and the persons present, deserves further notice. It can easily be prevented by recommending the subject to make but moderate exertions in the act of lowering and projecting forward the lower maxillary, during the introduction of the laryngoscope.

The mechanism of the displacement is apparently referable rather to the energetic contraction of the external pterygoids than to the exaggerated disjunction of the jaws; even when the mouth is moderately open enough for the purposes of laryngoscopic inspection, the articular condyles are already propelled forward, the external pterygoid acts powerfully on them, and easily draws them, in persons predisposed to the accident, over the transverse root of the zygomatic process.

This view would confirm the theory propounded by Boyer as to the active share of the external pterygoid muscle in the production of luxations of the lower jaw, and shows the error of the opinion entertained by J. L. Petit, who ascribed the displacement to spasm of the masseter, a muscle which is obviously unconcerned in the movements required by laryngoscopic inspection.

ART. 100. — *Case of Dislocation of Fifth Cervical Vertebra.*

By C. C. GRAY, Assistant-Surgeon U.S.A.

(*American Journal of the Medical Sciences*, July, 1866.)

Mr. Gray reports the following rare case: — "On the morning of Feb. 10th, 1866, I was called to see Private John Frank, Co. B, 2d U. S. Infantry, who was reported 'badly hurt by a fall.' I found the patient, a muscular, powerful German of thirty-five, lying upon a table in the company kitchen; his face pale, respiration sighing, pulse slow and full. From himself, and from those about him, I gathered the following particulars relative to the accident:—About ten minutes before he had invited the bystanders to witness a gymnastic feat.

"A few yards away the ground was thickly littered with short straw, which had been emptied from bed-sacks. Starting towards this straw, he ran a few steps, and bounding two or three feet in the air, attempted to throw a somersault without touching hands or head. Although accustomed to perform this exploit, he from some cause failed on this occasion. Instead of alighting upon his feet, his head struck the earth or rather straw, and he rolled over upon his side, and lay motionless. As he did not arise, his comrades approached, and found him in the condition mentioned above.

"Upon examination, I found that sensation and power of motion were alike wanting from the neck downward. The walls of the chest were motionless, and respiration was effected by the diaphragm alone.

"He was unable to raise the head, but moved it freely from side to side. In attempting to examine the neck, it was necessary to lift the head from the table, which movement caused so much distress that I was obliged to desist. I, however, discovered—as I thought—a slight but unusual depression immediately below the spinous process of the fourth or fifth cervical vertebra.

"The patient was conveyed to the regimental hospital, and placed upon a hard mattress, all pillows having been removed.

"Assistant-Surgeon S. H. Horner, U.S.A., saw the case with me, and together we endeavored to ascertain the nature and extent of the injury. By carefully supporting the head, the patient was turned partially upon his side, and a clear view obtained of the posterior parts of the neck. The examination was very unsatisfactory, for so thick were the layers of muscle and fat, that the usual

landmarks, the spinous processes, were indistinct, and we were unable to arrive at a positive diagnosis. It was clear, however, that there was an abnormal gap or depression between the spinous processes of the fourth and fifth, or fifth and sixth, cervical vertebræ; that pressure at this point of depression gave slight pain; that there was an absence of crepitus, and that the movements of the head upon the atlas, and of the atlas upon the axis, were such as to prove that these articulations were not involved. Respiration indicated that the lesion, whatever its nature, was below the origin of the phrenic nerve, while the total paralysis of the upper extremities could not be explained on any other theory than that of injury higher than the origin of the brachial plexus. It was further agreed that we were not likely to benefit the patient by attempting to rectify a distortion concerning the nature of which we were ignorant. From this time forth he was accordingly undisturbed. My function consisted in directing such small attentions as were possible in the case, and in watching the process of dying.

"He lay, as before stated, perfectly supine, breathing by the diaphragm; suffered no pain, and was able to swallow small quantities of fluids. His pulse, which immediately after the accident had been 78, in two hours had fallen to 72. Respirations 20 per minute.

"Remained in this condition during the day. In the evening about three ounces of turbid urine drawn off by catheter. On the morning of the 11th, the pulse was 65; respirations 23 per minute. Somewhat drowsy and dull, but perfectly rational and cheerful. Countenance dusky from venous congestion. Liquid food had been twice administered. Urine (six ounces) again evacuated by catheter, and tested, giving a strong acid reaction. In evening, pulse 62; respirations as before; face livid. Four ounces of urine evacuated and tested, giving same result as before.

"Died quietly at 6 A.M., February 12th, forty-four hours after injury.

"*Autopsy five hours after death.*—Rigor mortis imperfectly established; suggillation general over posterior portions of body; ulceration had already commenced over sacrum. The lower and back part of neck exhibited tumefaction—slight, yet sufficient to obliterate the depression which had been felt during life. The whole of the cervical portion of the spinal column was exposed by dissection, revealing a dislocation backwards of the fifth cervical vertebra. Both the superior articulating processes of this bone looked directly backwards, and its bifid spinous process was astride of and locked fast upon the neck of the spinous process of the sixth. So perfect was this impaction, that the spinous processes of the fifth and sixth could only be felt as one, until after all the soft tissues covering them had been dissected away. The luxation was 'symmetrical' in respect to lateral displacement. Of course, there was a wide interval, one and a half inches, between the spines of the fourth and fifth vertebræ, which interval constituted the depression before mentioned.

"There was no fracture of the body, pedicles, or laminae of the displaced bone, but on the right a small fragment of the anterior tubercle of the transverse process had snapped off.

"The subclavian and capsular ligaments between the fourth and fifth vertebræ had given way, as had also the attachment of the ligamentum nuchæ to these bones. The anterior and posterior common ligaments were unruptured.

"There was a slight extravasation of blood external to the sheath of the spinal marrow, and a considerable quantity between the sheath and the cord. The upper and posterior edge of the fifth cervical vertebra encroached to such extent upon the spinal canal that the cord at this point was bent at an abrupt angle, and its antero-posterior diameter reduced more than half.

"The meninges of the cord were not torn, nor was the cord itself lacerated; which may perhaps be explained by the fact that the wide separation of the bones allowed it (the cord) to bulge out posteriorly, and thus escape.

"The lungs were congested, but crepitant throughout; the air-passages filled with frothy mucus; the heart healthy, empty, and well contracted.

"The cervical vertebræ were removed entire; the dislocation unreduced. The specimen has been deposited in the Army Medical Museum (Museum Number 549).

"I have been unable to find a record of a similar case. So unique a dislocation could only result from a very complex 'composition of force and resistance.'"

ART. 101.—*Case of Excision of a part of the Spinal Accessory Nerve for Spasmodic Wry Neck.*

By MR. CAMPBELL DE MORGAN, F.R.S., Surgeon to the Middlesex Hospital, Examiner in Surgery to the Royal College of Physicians.

(*British and Foreign Medico-Chirurgical Review*, July, 1866.)

A healthy laboring man, æt. thirty-two, living in the country, was crushed down by the weight of a heavy ladder which he was attempting to lower. His neck was bent under it, but no particular injury appeared to have been done, and he paid small attention to the accident. This occurred in October, 1860. Nearly two months after, in December, he became affected with twitchings in the neck. He thinks, however, that for some months before the accident there had at times been a tendency to jerking of the neck to one side.

These spasmodic attacks, at first occasional, rapidly became more powerful and continuous, so as, in the course of two or three weeks, to thoroughly unfit him for work. On the 19th January, 1861, he was admitted into the Middlesex Hospital.

His appearance was peculiar. There was an anxious, worn look in the countenance, which at times changed to a sort of sardonic smile, from spasm of the facial muscles. The eyes were constantly twitched towards the right. He could fix them by an effort for a short time, but the twitching soon recurred. The head was spasmodically drawn to the right side, and the right shoulder was at the same time raised towards it. There was with this movement a rotation of the head, the chin being turned towards the point of the right shoulder, with the face looking directly over it. The spasms were at times so violent as to draw the chin behind the line of the shoulder. The sterno-mastoid and trapezius muscles were thrown into strong relief during the more violent spasms. The right shoulder was always on a higher level than the left, and this gave an appearance of distortion to the body, but the spine was quite straight.

Although the sterno-cleido-mastoid and trapezius muscles were apparently the seat of the most violent spasm, yet it was evident from the position of the head that their action was not the sole cause of the distortion. The combined action of these muscles would tend to bring the head down towards the shoulder, and to raise the shoulder itself, but at the same time to turn the chin towards the opposite side. The great pain which he suffered, and the spasmodic contractions, were due, probably, to the antagonistic action of several muscles—the splenius, and the inferior oblique and the greater posterior rectus dragging the face round in opposition to the actions of the trapezius and sterno-cleido-mastoid. There was no affection of the muscles of mastication.

By a very strong effort, and aided by the pressure of his hands, he could nearly, but not quite, bring the head into its natural position; but this was in a few seconds followed by more severe spasms. Any attempt by others to restore the head to its position by external force gave rise to such violent muscular action in the neck as to make it insupportable. When the paroxysms were severe he suffered very great pain, and he was never altogether free from discomfort.

During sleep the head was sometimes, though rarely, quiet, and lay in a natural position; but generally it was twisted round, and at times the spasms came on so as to awaken him. Sometimes he was altogether prevented from sleeping by them.

There was no appearance of disease or injury about the spine; the examination would bring on more powerful action, and thus produce pain; but the

same would occur if any part of the right side of the neck were handled. He complained of pain down the back; but there was no particular tenderness in any part of it. His general health was impaired by the constant pain and loss of rest.

The most careful examination failed to reveal any special point of irritation which might by reflex action give rise to these spasms. Mr. De Morgan's impression was, that they had a deep origin—the spinal accessory nerve, the abducens oculi, and some of the branches of the first and second cervical nerves being principally involved in their production. Whether they were reflex actions from some deep-seated irritation, perhaps within the spinal canal, or were set up by direct irritation in the nervous centres, could not be determined; the former view seemed the more probable.

For many months he was subjected to treatment, local and general, but with no benefit. Counter-irritation to the neck and over the spine generally, ice, and heat to the spine, galvanism, electricity, the local application of belladonna, opium, veratrine, and such like agents; the internal use of a host of sedatives, antispasmodics and alteratives, were alike impotent. The sub-cutaneous injection of morphia certainly relieved him and procured sleep; but he was not essentially better after a prolonged trial of it. Chloroform readily affected him, and under its influence the spasms entirely gave way, but they returned with all their former violence when its effects had passed off.

Then Mr. De Morgan determined to divide the sterno-cleido-mastoid muscle. It was not a case in which the same benefit could be expected from the operation as in ordinary wry neck. But one often sees that when a large class of muscles is affected by spasm induced by local irritation, relief is given to all by the section of one of the antagonistic muscles chiefly involved. The operation was done by making a puncture at the inner side of the sternal tendon of the muscle, about a quarter of an inch from its origin, carefully carrying a blunt-ended tenotomy knife flat along the posterior surface of the muscle, feeling the resistance of its fibres the whole way, and then turning the sharp edge towards the muscle, and rendering the fibres as tense as possible, cutting entirely through it. No bleeding took place. The extreme tension and spasm were at once markedly relaxed, but by no means entirely overcome. After twenty-four hours an attempt was made to keep the head in a more natural position by means of a collar constructed for the purpose; but although it could be brought into position with much less difficulty than before the operation, and could be fixed in it by the collar, the spasms were yet strong enough to drag the head round towards the shoulder, and the pain from the resistance of the collar was too severe to be long sustained. This treatment was soon discontinued, as it evidently did harm.

The muscle united quickly, and the spasms returned with as much violence as before.

The man's health was giving way under the constant pain and irritation, and it was evident that it must eventually break down altogether unless some decided relief could be obtained. The sterno-cleido-mastoid and trapezius muscles were clearly exercising a powerful traction on the head, and Mr. De Morgan thought if their united action could be prevented, that of the antagonistic muscles, even if persistent, might be controlled or tolerated. He was encouraged in this opinion by having seen the relief which the division of the sterno-mastoid alone afforded to the patient.

The division of the external branch of the spinal accessory, and the removal of a part of the nerve, seemed alone to promise the desired effect, and this operation was performed in February, 1862.

An incision two inches long was made along the posterior border of the muscle, the centre of the incision corresponding to about the centre of its edge. The fascia being slit up to the same extent, the trapezial branch of the nerve was sought for as it emerges from the sterno-cleido-mastoid to cross the posterior triangle of the neck. It will be found generally a little above the centre of the incision. When found, the nerve was traced through the fibres of the muscle—the fibres being cut through much as is done in an ordinary anatomical dissection—until the common trunk above the division into the trapezial and

sterno-mastoid branches was reached, and here a piece about a quarter of an inch in length was cut out. As the operation was, of course, done under chloroform, no effect was observable when the nerve was divided, the muscles were already thoroughly relaxed from its influence. On his recovery from the effects of the chloroform the trapezius and sterno-cleido-mastoid were found to be completely paralyzed, and although there were still an occasional and slight convulsive movement of rotation of the head, it lay on the pillow in almost a natural position. There was no tendency whatever to undue action of the corresponding muscles on the opposite side. The respiration was not in any way affected, nor did he experience any peculiar sensation. All he did feel was relief from the extreme tension of the neck. The countenance was more tranquil than it had been for months. The wound healed without any trouble.

When he got up it was found that the head maintained nearly its natural position. He did not require any special support. There was still some slight action of the rotary muscles of the head; the sterno-cleido-mastoid and trapezius remained perfectly flaccid, except at the back and upper part of the clavicular portion of the former muscle, which was tense, and evidently acted when he attempted to bring the right ear down towards the shoulder.

He soon began to regain flesh and strength. He was kept in the hospital for three months after the operation, and he was discharged in May, 1862, having been in the hospital upwards of sixteen months. On leaving the hospital he went down to the country, where he was soon able to resume his work as a laborer and thatcher.

Mr. De Morgan heard of him from time to time, and in January, 1865, he sent for him to town in order to examine into his condition. He was looking healthy, the countenance was tranquil, the face turned directly forward, with the forehead and chin in a perpendicular line. Occasionally and for a few seconds there was a trifling twitch of the head towards the right side, with a little movement in the eyes. Any sudden touch or excitement would bring this on. The right arm hung listlessly against the side. The body was a little deflected from the perpendicular, so that a line dropped from the centre of the forehead fell an inch and a half to the left of the pubic symphysis. This was owing to a uniform and very trifling arching of the spinal column, the concavity being directed towards the left; there was no indication of a double curvature. The right shoulder and right nipple were about an inch higher than the left. This gave an appearance of increased size to the right side of the chest, but the measurements were the same on the two sides. The right shoulder, however, projected more from the right side than the left. Measured either from the vertebra prominens or from the centre of the sternum, there was a good inch more of length to the tip of the acromion on the right than on the left side. This was due to the right shoulder being brought more to the horizontal position, while in the left shoulder the slope was perhaps greater than natural.

The right sterno-cleido-mastoid muscle was completely wasted, except at its upper and posterior part; here for about the breadth of half an inch, and extending from behind the mastoid process to the middle of the posterior border of the muscle, it was nearly as large as on the opposite side. Towards its lower end this band of fibres, which contracted strongly on his moving his head, tapered off to a point.

The trapezius was entirely wasted; a lamina not thicker than a shilling, and quite flaccid, could be felt in the neck. No contraction could be discovered in any part on his moving his head or shoulders. The rhomboid muscles could be seen in action below its dorsal part. These muscles were, Mr. De Morgan thinks, larger than natural. On the opposite side the trapezius was largely developed. On his raising the shoulders the right was elevated by three quarters of an inch more than the left, and, although the trapezius was so wasted, the right shoulder when raised appeared fuller than the left.

There was a little rotation of the right scapula, the inferior angle being tilted upwards and outwards, and the outer angle forwards.

The right arm and forearm were as powerfully developed as the left; the deltoids were equal on the two sides, and no difference was observable between the two great serrati.

His respiration was natural, and nothing peculiar was observed on his making a forced inspiration.

No alteration of sensibility was to be discovered in the neck and back.

This is, probably, the only instance of resection of the trunk of the external branch of the spinal accessory, and it is consequently interesting in a physiological as well as in a surgical point of view.

The fact of the upper and posterior part of the sterno-cleido-mastoid muscle retaining its activity may be accounted for in two ways. First, by the existence of some twigs given off from the nerve to the muscle before its division into its two main branches. This is unusual, but is not improbably the real solution. The second explanation is, that as the nerve forms numerous connections with the cervical nerves, some of the branches may have supplied this part of the muscle. This is rendered improbable by the interesting fact that although both the sterno-cleido-mastoid and the trapezial branches of the spinal accessory are freely associated with the cervical nerves, every part of both these muscles, with the exception above noticed, was completely paralyzed. The muscles acted neither by volition nor in respiration.

The rotation and elevation of the scapula were probably due to the action of the serratus magnus — unbalanced by the trapezius — but in some degree limited by the increased action of the rhomboids. The rhomboid muscle would prevent the serratus from drawing the scapula, too much forwards, but would tend at the same time to elevate it; and the serratus magnus itself would, I believe, raise the outer angle of the scapula, as well as bring it forward if uncontrolled by the trapezius.

The position of the body was a natural result of that of the shoulder. As the axis of the right shoulder from the spine to the acromion was an inch longer than that on the left side, the arm would hang at the end of a longer lever. To compensate for this, the body would necessarily be somewhat arched to the opposite side, as is done whenever the arm is kept extended.

In a surgical point of view, the case is of interest as one of unusual severity and involving a large class of muscles. The pathology of wry neck from muscular action is but imperfectly understood. Mr. De Morgan's belief is, that the complaint is due to an irritation of the nerves in every instance in which inflammation or some disease of the muscles themselves has not preceded it. He doubts whether, as is often alleged to be the case, it is ever caused by paralysis of the muscles of the opposite side.

What ground was there, then, for believing that by paralyzing one set only of the spasmodically affected muscles relief would be given to the spasms in the other? Had the spasms had a central origin in the cord, it is doubtful that much benefit would have followed the operation. But there was the evidence that the symptoms were partially relieved so long as the sterno-mastoid remained ununited after its division. And it is well known that where a large class of muscles is involved in spasmodic action, arising from reflex irritation, the section of a single muscle will entirely remove it.

(B) CONCERNING THE TRUNK.

ART. 102.—*On Contraction of the Anus, and Forcible Dilatation.*

By Professor ROSSANDER.

(*Hygieia*, 1865 ; *Schmidt's Jahrbücher*, 1866.)

It is well known that the first description of the contracted or fissured anus was given by Boyer, who also devised an effectual plan of treatment. Subsequent writers have studied the ætiology and the nature of the malady, and have sought for a milder method of cure. For this purpose it has been essential to determine what was the first step in the disorder, whether the contraction was the cause of the fissure, or the result of reflex irritation preceding from it. In

other words, to which of the principal features of the disease the surgeon should direct his attention.

Prof. Rossander states that, according to his experience, the malady is more frequent than is commonly supposed; and that it is not seldom the cause of symptoms that are attributed to other conditions. During the decade of 1853-63, fifty patients suffering from it came for operation into Hospital, under the care of the author and his colleague, Prof. Santesson; and in private practice, the author saw eight cases in 1864. Of the hospital patients twenty-four were males, and twenty-six females; but the statement of most writers that females greatly preponderate (among 150 cases, treated by Maisonneuve, 120 were in women) agrees with the author's experience in private practice. Of the last eleven cases treated by him, nine were in women. Most of the patients were between twenty and forty years old; but in private practice the author operated upon a woman sixty-five years old; and, in hospital, upon a child of four years. That the malady may occur in young children, and may even be congenital, had already been shown by Boyer; and Prof. Abelin has found fissured anus with contraction without fissure, in sucking infants as well as in older children.

The causes of the disease are not easily determined, although most authors are agreed that it commonly attacks persons who are habitually constipated. Rossander thinks this statement goes too far, and confounds an effect with the cause. The disease infallibly produces constipation; and, when the patient has thus suffered for several years, he is often unable to say positively what was the earliest symptom. It cannot be denied, however, that difficult defecation may produce fissure in various ways; among others, by laceration of the mucous membrane by scybalæ. But this occurs less frequently than those assume who regard the fissure as the first and essential phenomenon of the disease; since very large and hard fecal masses will pass, without doing the smallest injury, through an anus that is not morbidly contracted; and of all the patients seen by the author, only one declared that the pain had commenced suddenly. When, however, contraction of the sphincter is already present, the formation of fissures by hard feces may happen very easily. Habitual constipation may also occasion the disease indirectly, by its influence upon the portal circulation, giving rise to hæmorrhoids and varicose vessels in the neighborhood of the sphincter, and thus causing irritation which may excite in that muscle a similar reflected contraction or spasm. All circumstances, indeed, that tend to congestion of the anal or perineal region, are liable to occasion contraction. Hence the disease often commences in the later periods of pregnancy. Tumors of other kinds in the abdomen or pelvis, and any sources of irritation about the genito-urinary organs, may act in a similar manner. Lastly, contraction may be excited by injuries and other local causes, among which may be reckoned anal ulcers, whether they be fissures or not.

The subjective symptoms depend chiefly on the pain in defecation; pain that is at first inconsiderable and transitory, but that becomes more severe and of longer duration. Those who maintain that the whole disorder is dependent upon an anal fissure, describe as the first symptom a penetrating and burning sensation in a limited and determinate part of the anal circle, but this has never been observed by the author. Purgatives are commonly much used by the patients, either to soften the evacuations, or because without them there would be no evacuations at all. At first they diminish the pain, but not subsequently, and a loose motion becomes as tormenting as a hard one. If the disease be complicated by internal piles, these will be forced out during evacuation, and then constricted by the sphincter; and their return, always painful, will at last become scarcely possible. In such cases there is often considerable bleeding during evacuation; but otherwise the stools are usually less bloody than they have been described. The pain radiates in various directions; but the genito-urinary system is usually the first to share in it. There is often spasm of the bladder with frequent and painful micturition; and these symptoms may be sufficiently severe to divert the attention of both surgeon and patient from the original malady. Coitus may also become painful, especially to women, and so also may menstruation. Rossander found contraction of the anus in a young lady who consulted him on account of cramp in the calves of

her legs; but she refused to submit to operation, so that he could not determine that the contraction was the cause of the cramp. Lastly, many of the so-called nervous diseases, such as hypochondria, hysteria, cardialgia, and others, are found among the consequences of contraction; while the author has never seen them associated with fistula.

Among the objective symptoms the contraction of the anus is the most constant. Even from outside, the sphincter may be felt as a hard ring, and the finger introduced into the bowel is met by considerable resistance, and occasions the patient the most acute pain. The breadth of the hard circle by which the finger is constricted is often only a few lines, but it is sometimes much more.

Occasionally two rings are felt, one above another. The author has not observed the general flattening of the whole anal region that has been described by others, but, on the contrary, has found it strongly wrinkled, so that the folds of skin and venous membrane were deeper than usual. There will often be one or more ulcers, commonly elongated in shape. The edges of these ulcers are hard, their surfaces velvety, but only visible at the lower part. The ulcers may be more or less deep, are often situated posteriorly, not exactly in the middle line; and when the folds in which they are situated are stretched out, are found to possess a round or an oval form. Sometimes the fissure is first discovered when the patient presses forward the folds of the mucous membrane by straining. Sometimes the most careful examination discovers no fissure, or only an excoriation of some fold of skin. Such excoriations are produced in the more or less wrinkled and inflamed mucous membrane by small portions of excrement, left unremoved by the patient on account of the sensitiveness of the part.

It is impossible, according to Rossander, to consider these small excoriations, present one day and healed the next, as the source and origin of the disease. The essential morbid phenomenon is spasm of the sphincter, one of the causes of which, perhaps even the most common cause, may be fissure; but still fissure alone does not constitute the disease. There are many instances of anal ulcer (*e.g.*, syphilitic ulcers) in which there is no pain on evacuation. It is necessary to cure the spasm; and it is a matter of indifference whether a fissure co-exist or not. This opinion is best confirmed by the results of treatment, which furnish the strongest argument in favor of Boyer's views. The author states that when he is consulted by a patient who complains of the characteristic pain, and in whom the sphincter is strongly drawn together, he does not endeavor to ascertain whether a fissure exists; since the examination would only give the patient unnecessary pain. The use of a speculum is for the same reasons objectionable. The finger should be introduced in order to determine the existence of contraction, its extent, the state of the intestine and mucous membrane above the sphincter, and to discover the evidence of any tumor that might require removal. It should not be moved to and fro, in order to ascertain whether any one point of the anal circle was especially painful. Although the diagnosis is generally easy, on account of the remarkable character of the symptoms, yet the author is of opinion that these symptoms are very often overlooked. It is common to meet with patients who have believed their sufferings to be due to piles, and who, in that belief, have employed a variety of remedies without consulting a surgeon; or who, especially women, have refused to submit to any proper examination.

To confound this disease with others would not be easy. The subjective symptoms of cancer of the rectum resemble it in some degree; but with ordinary attention the two can readily be distinguished. Hæmorrhoidic tumors may simulate contraction; but the two conditions frequently coexist, and in special cases there could be no difficulty in determining whether the latter was present or not. The prognosis, if the disease be left to itself, is always unfavorable. The author thinks it possible that actual contraction may disappear after the removal of its exciting cause; but such cases would be difficult to recognize. When the disease is treated, the prognosis is especially favorable, there being few surgical operations so certainly curative and attended with so little danger as those for anal contraction, especially forced dilatation. Although some sur-

geons profess to effect a cure by various ointments, local applications, and laxatives, yet the treatment is essentially operative. The author does not advise immediate operation in every case, and thinks that, when contraction is excited by a recent fissure, other means, especially cauterization with nitrate of silver, may be of service. With regard to the ointments, he thinks that their liberal application, and introduction within the sphincter, may produce some degree of dilatation.

Among operative procedures that by incision is the oldest and best established, and Boyer believed that by this means he had radically cured all his cases. The author has never himself employed the large and deep incision recommended by Boyer, but he holds that Boyer's statements are worthy of all credit. Many other surgeons have failed to obtain good results by incision; and it is possible that their incisions may not have been deep enough to relieve the spasm. Some have observed evil results from the incision, whence Vidal, Dupuytren, Guérin, and others, have modified Boyer's operation in various ways. The author describes several of these modifications; and, among all of them, gives the preference to Blandin's suggestion of a subcutaneous section. This is, however, difficult of accomplishment, and has been little practised, since the same end may be attained more easily by the method of *forcible dilatation*. Soon after Boyer's discovery of the nature of the disease, it was suggested that dilatation might afford a remedy. Dubois, Marjolin, and others sought to attain this end by a succession of tents, lubricated with anodyne ointments. Velpeau advised that the first dilatation should be complete, without regard to pain. For this purpose the author recommends the procedure of Maisonneuve, known as "forcible dilatation." On the day before the operation the patient should take a purgative of castor-oil, and on the morning of the operation an enema, so that the bowels may be undisturbed for a period of from twenty-four to forty-eight hours. The patient is placed upon his side and chloroformed, both to diminish pain and to facilitate dilatation. Many patients, however, and especially ladies, have refused chloroform, because they feared it more than the pain, and because they objected to the presence of a second surgeon. The operation is commenced by introducing one well-oiled index finger with its volar side towards the os coccygis, and the other exactly opposite to it, so that the backs of the two fingers are in contact. They are so bent that the third phalanx of each forms a right angle with the second, and is carried completely above the ring of muscle. The dilatation is then commenced by pulling with the two fingers directly forwards and backwards, and the distance between them is gradually increased, until the sphincter is stretched as much as possible. The muscular fibres will be felt to yield, and some of them may perhaps be torn, but this is of no consequence. In order to obtain a good result, considerable force is necessary, and the distance between the backs of the two fingers should be at least an inch, often an inch and a half, at the end of the operation.

The anus remains for a short period wide open; but after a few minutes it closes again. The little rents or fissures made in the mucous membrane, and the trifling bleeding from them, as well as the ecchymosis produced in the anal region, are of no consequence, and require no treatment. Pain commonly continues for some hours, and is sometimes very severe. Usually it is not worse, and is more transient, than that which has followed every evacuation; often it is much less severe. Frequently there has been some difficulty in micturition, not continuing after the second day. After simple dilatation, Rosander has never seen any abscess or other unfavorable complication. The paralysis of the sphincter is very temporary, and has never given rise to incontinence of feces. Indeed, the effects of the operation were so slight, that many persons requiring it have been treated at the hospital as out-patients, and allowed to proceed to their homes after a short repose. As a dressing, nothing is required but cold compresses, renewed as often as they become warm, so long as the pain continues. Among all the cases treated at Stockholm there has been no relapse; and, commonly, the first stool after the operation (especially when delayed for forty-eight hours or more), and always the second or third, has been wholly free from pain. With the removal of the pain, all secondary or sympathetic sufferings have also disappeared.

The various methods of operative treatment that have been advised for contraction of the anus may all cure the disease, but none of them so speedily, certainly, and safely, as dilatation. The small incisions are often insufficient. The deep incision of Boyer is equally effectual and often less painful. But it has been followed by abscess, and even by death, and the resulting wound is always many weeks in healing. Blandin's subcutaneous incision is less dangerous than Boyer's; but it is very difficult of accomplishment, and requires a special apparatus. The dilatation also is advantageous on account of the facilities it affords for the ligature or removal of piles, which very often complicate the original disorder, and which may be treated with great facility as soon as the sphincter has been stretched.

ART. 103. — *Simple Method of Radically Curing Reducible Hernia.*

By JULIAN J. CHISOLM, M.D., Professor of Surgery in the Medical College of South Carolina, U.S.A.

(*The Lancet*, September 1, 1866.)

A simple plan for radically curing hernia, which Dr. Chisolm suggested and put into successful practice in 1859, consists in sewing the columns of the inguinal ring together, subcutaneously, by silver wire, and leaving the wire permanently in the tissues, so as to act the part of a permanent internal clamp. This restores to a great extent the virgin condition of the external oblique tendon which gives strength and support to the lower portion of the abdomen. The only instrument necessary for the performance of this operation is a stiff needle five inches in length, very slightly curved towards its point, near which is placed the eye. The other extremity of the needle is secured in a firm handle which enables the surgeon to control its movements.

The various steps of the operation are as follows:—The patient having undergone the usual preparation of having the bowels emptied by some mild cathartic, is placed in the recumbent posture, and all hair is removed from the pubic region corresponding to the side upon which the operation is to be performed. The hernial contents having been returned into the peritoneal cavity, the index-finger of the left hand is placed over the centre of the fundus of the scrotum (palmar surface upwards), the needle lying upon and parallel with it, the eye of the needle corresponding with the pulp of the finger, which can guide it in the direction it should take to the point of transfixion. The finger, with the needle now capped by scrotal tissue, is passed up into the inguinal canal until the inner face of the columns can be readily felt. The pulp of the finger having passed well behind the internal column, the handle of the needle is seized, and the point, directed by the finger, is made to transfix the conjoined tendon and internal column at some distance from its free border. When the point of the needle projects under the skin of the abdomen, an assistant draws the skin inward towards the median line, so as to make the needle perforate that portion of skin which would normally lie over the central portion of the canal. The needle is now threaded with a silver wire and then drawn back into the canal and through the scrotum, leaving one end of the wire exposed upon the abdomen. If the point of the needle has escaped from the scrotal puncture, it is carefully reinserted through the same orifice, and directed as before upon the pulp of the finger, passes with the invaginated scrotum into the canal, and is made to transfix the external pillar of the ring. As the point lifts the skin, the abdominal covering is drawn outwards in such a way that the point of the needle protrudes through the puncture first made in the skin of the abdomen. The silver wire is now detached from the eye, and the needle completely withdrawn through the scrotum, leaving the two ends of the silver wire protruding from the abdominal puncture. The portion of wire embedded

in the tissues forms a long loop, which extends continuously through each column of the ring to the bottom of the scrotum; the extreme convexity of the loop lying in the scrotal fascia under the skin, where it can be felt by passing a probe into the scrotal puncture.

The next step of the operation consists in drawing firmly upon the ends of the wire, whilst the scrotum is drawn downwards and its invagination prevented, which forces the wire to tear or dissect up the scrotal fascia to the immediate vicinity of the ring. If the finger be now thrust up into the canal and the wire drawn upon, the finger will be squeezed by the approaching columns; and if drawn out of the canal, and the wire be still drawn upon, the ring will be so diminished in size as only to accommodate the spermatic cord, with no room to readmit the finger. The wire is now twisted from above with a torsion forceps, and when the columns are brought well in apposition, without too much traction being made to cause the wire to act as an *écraseur*, the ends of the wire are cut off as close as possible to the abdomen, when the portion left in the wound immediately disappears from view under the skin.

From the beginning to the end of the operation not a drop of blood is drawn, the only external evidence of an operation having been performed being a small prick in the skin of the abdomen and a similar one in the scrotum, either of which can scarcely be found, and which heal in a few hours. For a few days after the operation the patient is kept quiet, until the wire can become imbedded in lymph effusion. No truss need afterwards be worn, as the wire clasping the columns of the ring restores the support of the abdominal wall; the truss, moreover, would act injuriously by painfully compressing the skin against the incarcerated wire suture. One suture suffices for the majority of herniæ. Should the orifice of protrusion be of large size, as in large inguinal or umbilical herniæ, two or more sutures may be required to keep the borders of the opening in perfect apposition. A point of much importance is that of introducing the needle the second time exactly through the same orifice in the scrotal skin as it had traversed in its first introduction; for should a portion of the skin be involved in the loop of the wire, the ready dissection of the scrotal fascia cannot be effected without much force, and the scrotum becomes invaginated in the inguinal canal. The same rule holds good for the abdominal puncture, otherwise the twisted wire will not slip under the skin and become embedded in the subcutaneous fascia.

ART. 104. — *A Case in which a New Operation for the Radical Cure of Hernia was successfully performed.*

By Mr. ARTHUR E. DURHAM, F.R.C.S., Assistant Surgeon to, and
Lecturer on Anatomy at, Guy's Hospital.

(*Proceedings of the Royal Medico-Chirurgical Society; The Lancet*, June 16, 1866.)

Stephen H—, a sailor, twenty-six years of age, sought admission to Guy's Hospital for the purpose of being radically cured of an easily-reducible but very troublesome inguino-scrotal hernia on the right side. The hernia had been first noticed six years previously. It had gradually increased in size, and extended into the scrotum. Latterly it had given rise to such constant inconvenience and so much occasional pain that the patient had been quite unable to follow his occupation. He could not wear a truss, although he had repeatedly attempted to do so. At the period of admission to the hospital the scrotal portion of the hernia was about as large as a hen's egg, or rather larger. The bowel, of which it was evident the hernia mainly consisted, was easily returned into the abdomen, but a slight fulness of the inguinal canal persistently remained.

On Jan. 19th, chloroform having been fully administered, and the hernia reduced as completely as possible, Mr. Durham proceeded to operate in the

following manner: An incision about two inches and a half in length was made through the skin and superficial fascia, in a direction at right angles to Poupart's ligament, and just over the inner border of the internal or deep abdominal ring. The tendon of the external abdominal oblique muscle was next divided in a similar direction, but to a somewhat less extent, and in a situation slightly further from the median line of the body. The lower fibres of the internal abdominal oblique or cremaster were then separated longitudinally, and the internal spermatic fascia, or fascia propria of the hernia, was exposed. A slight incision having been made in the lower and deeper part of this fascia, an aneurism needle was carefully insinuated through the areolar tissue, and by its means a ligature was placed between the sac of the hernia and the important structures of the spermatic cord, and carried through the upper and deeper part of the fascia. The fascia and sac were then drawn gently downwards and towards the median line of the body, and the ligature was tied lightly as high up and as far outwards as possible; in fact, as nearly as could be judged, exactly at the internal or deep ring. The ligature thus included the greater part of the circumference of the fascia propria or internal spermatic fascia just where it becomes continuous with the fascia transversalis, the whole circumference of the sac just at its junction with the general peritoneal lining of the abdominal parietes, and within the sac a small plug-like portion of omentum. In passing the aneurism needle, a slight puncture was unintentionally made into the sac. This puncture, however, when subsequently dilated, afforded the opportunity of ascertaining that the sac did not communicate with the tunica vaginalis testis, but that it contained a small piece of irreducible omentum; this was drawn out and cut off below the ligature. Finally, the wound was closed above and below by sutures, which were passed through the sac. The ends of the ligature were left coming through the middle of the wound.

The after progress of the case was most satisfactory. The patient was kept absolutely in the recumbent position for more than six weeks. From first to last he never had a single bad symptom worth mentioning. There was never any abdominal tenderness, constitutional disturbance, or other indication of general peritonitis; nor was there ever much pain about the site of the operation. The upper and lower part of the wound healed by first intention. The ligature came away on the eighteenth day, and complete closure of the wound speedily followed. On the 29th March, the patient, having to a certain extent recovered his strength, went into the country. Before leaving the hospital he was examined by all the members of the surgical staff, as well as by many visitors. There could not be discovered the slightest hernial protrusion, nor any abnormal impulse on coughing. The inguinal canal from the internal ring seemed perfectly blocked by the obliterated sac and new material.

This case, although a solitary one, may be considered to prove—first, that the method of operation described is practicable; and, secondly, that it is not necessarily attended by danger. The author would add that he believes it to be more scientific in principle than any other method yet adopted, and he hopes, therefore, it may prove more successful in practice.

ART. 105.—*On the best Form of Truss for Umbilical Hernia.*

By M. DEMARQUAY.

(*Union Médicale*, No. 33; *British and Foreign Medico-Chirurgical Review*, July, 1866.)

The best form of truss for umbilical hernia, according to M. Demarquay, consists in a little pyramidal pad formed of very supple vulcanized caoutchouc, and filled with air. The hernia in children can, by the aid of this, be easily retained. When it has to be applied it is affixed to a very supple strip of diachylon, as broad as itself, and nearly long enough to surround the body. It

should be renewed every day or two after placing the child in a bath, but it can be dried again for future use, and is very cheap. When at the end of some months the hernia has become very small, or has no longer a tendency to come out, the caoutchouc may be replaced by a little ball of wadding. These air caoutchouc pads may also, when properly adapted in size and form, be very advantageously employed in the adult, affording complete relief to the distressing symptoms induced when the hernia is ill supported. The diachylon strip requires to be proportionally broader, and two smaller strips should lap over it above and below the pad, to keep it *in situ*.

ART. 106.—*Traumatic Destruction of the Posterior Part of the Urethra. Restoration of Continuity. Cure.*

By Dr. NOTTA.

(*L'Union*, 1864; *Schmidt's Jahrbücher*, 1866.)

Dr. Notta records the case of a man who received several injuries by being buried under some fallen rubbish. Among them was a wound in the perineum, completely dividing the urethra. The first attempts to pass a catheter were unsuccessful; but, after a time, on opening an abscess behind the symphysis, the author felt a somewhat depressed spot, and on introducing here a hollow sound, obtained proof, from the outflow of urine, that he had reached the bladder. He then introduced at the meatus a catheter of vulcanized india-rubber open at the extremity, and brought it into the wound. Through this catheter he carried a whalebone stilet; and, when this appeared in the wound, guided it along the hollow sound into the bladder. The sound was then withdrawn, and the catheter guided over the stilet into the bladder. After two months it was withdrawn, neither incrustated nor otherwise injured, on which account the author greatly recommends vulcanized india-rubber as a material for catheters. The second time the catheter remained in the bladder eighty-two days, and, during this time, the perineal wound contracted and closed by granulations.

When the healing was complete, the penis was somewhat shortened: a natural result of the loss of substance. There was no difficulty in micturition, nor in the introduction of a full-sized catheter, which was practised from time to time as a precaution.

ART. 107.—*On the Treatment of Severe Stricture of the Urethra by Over-Distention.*

By Mr. HENRY THOMPSON, F.R.C.S., Surgeon-Extraordinary to H.M. the King of the Belgians, Surgeon to University College Hospital, &c.

(*The Lancet*, June 6, 1866.)

Mr. Thompson first insists on the following fact, namely, *that that portion of the urethra which is most frequently affected by stricture possesses in its natural condition a calibre at least double that of the external meatus*. It follows then of necessity, he argues, that any kind of dilatation of the strictured portion which is limited in extent by the size of the external meatus does but half restore the natural calibre of the canal. In other words, the external meatus having in any case a diameter equal to that of No. 12 of our catheter scale, the natural diameter of the bulbous portion will equal at least that of No. 16 or of No. 18—an area more than double that of the former. Hence, if this latter portion becomes the subject of stricture, and the dilatation is carried no higher than No. 11 or 12, the stricture is not more than half dilated.

Practically, for the great majority of cases, such dilatation suffices for all purposes. The patient loses all his symptoms, and continues well on condition that he keeps open his stricture by occasionally passing an instrument. Happily, ordinary dilatation effects all this for most patients. For a few exceptional cases, however, it is insufficient to relieve the symptoms. The passing of a full-sized instrument does not enable the patient to pass even a tolerable stream; it often produces absolute retention, or rigors, or increased pain. For such a stricture we are accustomed to use some more efficient proceeding — *a. g.*, to divide the hardened tissues (urethrotomy), or to burst them at a single operation (rupture). Each proceeding has been, and is, of considerable value when judiciously adapted to the case.

But by neither of these operations is the urethra restored to its original calibre at the point of stricture. So long as the rupturing instrument or the dilating instrument is limited in its size by the calibre of the external meatus, the contracted portion of the urethra is only half dilated.

Referring to the treatment by incision, Mr. Thompson says that in many obstinate cases a perfect result may be accomplished by means of a powerful distending instrument without any incisions at all. The principle which underlies and regulates this proceeding is that on which he lays some stress — *viz.*, to restore, if possible, the bulbous urethra to its natural size, regarding it as about twice that of the external meatus.

"In order to effect this purpose," he continues, "I have designed and employed an instrument which somewhat resembles others that have gone before it, but which have been differently used; such, for example, as that referred to above, and also some employed for gradual or slow dilatation, applied at intervals of two or three days during a considerable period of time. The main and the important distinction consists in the method of employing it; in effecting the object by a single application only, instead of by numerous repetitions. My instrument, however, is much more powerful than its predecessors. It opens the bulbous urethra to more than double the size of the meatus, and acts mainly on the strictured, not on the healthy, portion of the urethra. When closed for introduction, it equals in size about a No. 5 catheter. As many strictures on which it is necessary to act are smaller in calibre than this, it is then essential to tie in a small gum catheter for thirty-six or forty-eight hours before employing it, in order to dilate the stricture temporarily to a sufficient size to admit the instrument. It is assumed, of course, that the stricture has been proved not to be permanently benefited by such (*i. e.*, tying-in) dilatation, or the treatment about to be described would not be adopted. However narrow or retractile a stricture may be, it is always possible, by tying in, to dilate temporarily as far as to the required calibre.

"The next principle which guides the treatment is this. Experience shows that most living tissues, if over-distended, lose to a great extent their natural elasticity. Thus the over-distention of the female urethra has often produced incurable incontinence arising from this cause — which is one instance only among others which might be adduced. The distending instrument I employ is composed of two parallel rods, which can be slowly separated by means of a screw in the handle, through the action of two levers which exist between them.¹ In this manner the rods pass gradually and successively through all the numbers of the catheter scale, from 5 to 16 or 18, in obedience to the operator's action on the screw, and an index there marks the rate of movement for his information. When opened, the two blades produce the figure of a very elongated spindle, the centre of which corresponds with the site of the stricture in the urethra. This position is easily insured by means of the graduated scale marked on the stem of the instrument, and a small clamp which slides upon it. If the stricture is five inches from the orifice, the clamp is placed against the figure 5 on the stem, and the instrument is passed until the clamp rests against the external meatus. It is to be carefully maintained in this situation while the distention takes place.

¹ Originally one lever only existed. Recently Mr. Coxeter has constructed the instrument with two levers, and thus has augmented its power, which is now ample.

"Having so placed the instrument, nothing would be easier than to turn the screw rapidly, and at once raise the calibre of the strictured portion to the required size—say 16 or 18. This would effect its rupture, and is precisely that which I wish to avoid. I occupy from seven to ten minutes in slowly distending the part up to that calibre, and therefore prefer to give the patient the benefit of chloroform. Hence I *over-distend as much as possible, and rupture as little as possible*. The tightest fibres of all alone get ruptured; those which are less rigid yield to the distending force. The more I can accomplish the latter object, the more I avail myself of the principles just alluded to, and deprive the tissues of their elasticity. The more I accomplish by rupture, the more of a wound I produce, and consequently the more fear there is of rapidly returning contraction. Having reached the limit intended, the screw is slowly turned back until the index marks about No. 10, and the instrument is withdrawn. The instrument is designedly not entirely closed. A large gum catheter is passed, and tied in for twenty-four hours, a plan which appears preferable, although there is no more occasion to do this than there is after rupture, under which circumstances Mr. Holt dispenses with the catheter altogether. I pass no instrument for two days; then a full-sized bougie every day or two, prolonging the intervals, and teaching the patient to do it himself occasionally afterwards.

"A few words on the cases in which this proceeding is not applicable, or rather in which other treatment appears to me preferable. For an old and non-dilatable stricture within two or three inches of the meatus, I prefer internal urethrotomy. It is perfectly safe and easy if performed in that situation. Dilatation and rupture, in my experience, are both inadequate to produce any lasting benefit. I have heard of my mode being tried at the anterior part of the canal. I should not have advised it. The spongy body here is so much less extensible, so little porous, and so greatly fibrous, as compared with its character where it constitutes the bulb, that but small room exists for extension. Hence in part the futility of ordinary dilatation as well as of over-distention in this situation.

"Again, if a urethra is narrowed at several points—an unusual condition, but nevertheless one which is occasionally met with—I should prefer to adopt Mr. Holt's plan of rupture as, on the whole, the most certain to hit all the points of narrowing.

"There remain then all the strictures, forming a great majority, which exist at from four to six inches from the meatus. For these I may say, in one word, that, having employed all the mechanical methods of dealing with them that rest on sufficiently sound principles or on sufficiently good authority to merit a trial, I know of none that has afforded me such good results, both in regard of the immediate object and of the enduring result, as the method I have endeavored to delineate in this paper."

ART. 108. — *A New Remedy in Gonorrhœa.*

By J. S. PRETTYMAN, M.D., of Milford, Del., U. S.

(*American Journal of the Medical Sciences*, July, 1866.)

In July, 1859, while narrowly observing the effects of oil of erigeron administered in a fearful hæmoptysis, Dr. Prettyman was led to suspect that it would prove a useful remedy in the treatment of gonorrhœa. Acting upon this presumption, he immediately commenced giving it to a patient then under his care in whose case all the vaunted specifics had most signally failed. He improved at once, and was speedily cured. Since that date Dr. Prettyman has prescribed it in about fifty cases, with unvarying success. It arrests the discharge in about seventy-two hours, and effects a cure in from six to eight days. He does not recommend it as a specific in all cases, but designs merely to bring it to the notice of the profession as an exceedingly valuable medicine in this disease. Of

course, all scientific medical practice is based upon the well-known pathological condition of the structures involved, and this is our unerring guide. When, in recent cases, the urethral inflammation is severe, his plan is to precede the remedy with a full dose of some active hydragogue. A good formula is: *R.*—Pulv. senna, ℥ij; pulv. jalapa, ℥j; pulv. aromaticus, gr. x. M. Add a gill of boiling water and a teaspoonful of sugar, and, when sufficiently cool, agitate and swallow at a dose. As soon as this operates, give ten drops of the oil on sugar, and three hours later a full dose of spts. æther. nit. in infus. althea, and so on every three hours alternately until the urethral irritation is allayed. Then leave off the latter, and continue the oil until the cure is complete. If the case is not recent, or there is but little urethral irritation, the oil alone is sufficient.

Dr. Prettyman has used it also in combination with copaiba and other articles, and found such preparations to answer a good purpose, but no better than the oil alone.

The oil which he uses is reputed to be that of the *Erigeron Canadense*; but he presumes that from the *Philadelphicum* is equal, if not superior, for this purpose.

ART. 109.—On Soluble Bougies.

By Mr. HENRY THOMPSON, Surgeon to University College Hospital.

(*The Lancet*, May 12, 1866.)

Believing that the imperfect action of injections depends upon the very short time that they are in contact with the mucous membrane, Mr. Thompson conceived the idea of applying the astringent in such a form as would enable it to remain for a much longer period in contact with the inflamed surface. Under his direction, Messrs. Bell and Co. have constructed "soluble bougies," two or three inches in length, made of cacao butter, containing the drug it is wished to apply. They are cast in moulds, are perfectly firm and smooth, and may be used in any length, but that named has been deemed the best. A soluble bougie is equal in size to about No. 8 or 9 of the catheter scale, and may be introduced (having been previously oiled) by the patient himself into the urethra, where the material gradually melts in the space of about ten minutes. The patient is directed to slip one of these bougies into the passage on going to bed.

"After trying many methods for retaining the bougie *in situ*, Mr. Thompson has adopted the following:—A piece of adhesive plaster is cut, nearly an inch wide and five inches long. A piece of Taylor's stout lint, of the same size, is rolled up into a little pad and laid on the centre of the plaster, which is warmed, and applied along the lower surface and dorsum of the penis, the prepuce meanwhile being fully retracted. A second strip of plaster, half the width of the first, is then put closely around the glans penis transversely. The bougies are made to contain either a quarter of a grain of nitrate of silver, a grain of tannin, two-thirds of a grain of acetate of lead, or ten grains of nitrate of bismuth, as astringents; while others are sedative also, and contain two grains of opium, or two of belladonna. Other materials can, of course, be employed. By this plan Mr. Thompson has satisfied himself that the active agent is kept for several hours in contact with the urethral surface, and is, moreover, necessarily squeezed into the lacunæ, which often, doubtless, escape being acted upon by injections.

ART. 110.—*Insufflation of Medicated Powders into the Urethra.*

By M. MALLEZ.

(Journal of Practical Medicine and Surgery, May, 1866.)

M. Mallez has devised for this purpose an apparatus which consists—1st, of an india-rubber ball supplied with a metallic mouth-piece; 2d, of a slender catheter adjusted to a small brass cup, which can be adapted to the armature of the ball; 3d, of a catheter of larger size, open at both ends. This sound is in the first place introduced beyond the membranous portion of the urethra; the narrow tube is then passed down into its cavity, bearing in its cup the medicated powder; and pressure of the india-rubber ball now affixed to the cup, propels the powder into the urethra, where it is deposited over the entire surface of the mucous membrane during the slow withdrawal of the apparatus. Experiments on the dead subject show that the operation perfectly answers the inventor's purpose.

In twelve cases of chronic gonorrhoea a cure was effected in this manner; and in five, the disease had lasted from two to four years.

M. Mallez has hitherto used bismuth powder. He is now engaged in experiments with other substances, such as the phosphate of magnesia. The instrument might be used for the introduction of medicated powders into the cervix uteri, and in almost every variety of sinus.

ART. 111.—*On the Operation of Trephining in Cases of Fracture of the Spine.*

By Dr. ROBERT M'DONNELL, F.R.S., Surgeon to Jarvis-street Hospital; Lecturer on Surgery in the Carmichael School of Medicine; Examiner in Surgery in the Queen's University.

(Dublin Quarterly Journal of Medical Science, August, 1866.)

In a former article, (see Vol. XLII. of the *Abstract*, p. 191,) Dr. M'Donnell discussed the general question as to whether the operation of trephining the spine should be adopted in certain cases, or whether it was to be set aside altogether as an operative procedure, as it practically has been for many years past. In the present paper he considers the special circumstances and symptoms which appear to indicate cases favorable for the operation, or the reverse; and finally the method of performing the operation in different regions of the spine.

He cites first, in greater or less detail, and with a view to the removal of certain objections to the operation, twenty-six cases of fracture of the spine, and adds the following remarks:—

"These cases show, if nothing else, at least that instances of fracture of the vertebræ, unaccompanied by fracture or displacement of the body, are not very unfrequent; in fact, I candidly confess, that, until I had looked into the published details more carefully than I had hitherto thought of doing, I accepted the assertions of others, and was not prepared to find so many. Those which I have here brought together represent rather more than ten per cent. of the recorded cases upon which I have been able to lay my hands. In the great majority of such cases the fracture occurs in the cervical or upper part of the dorsal region; the reason of which is obvious, both from the conformation of the spine and the exposure of these regions to injuries by direct violence. In discussing the question as to whether the operation of trephining the spine is to be admitted among the legitimate and recognized operations in surgery, injuries of the kind above mentioned have a considerable importance. They prove that after all, among the cases of fracture of the spinal column, a goodly percentage

are of such a nature that even the sternest adversaries of the operation would admit them not to be unsuitable for it. The question here only turns upon the difficulty of diagnosis.

"The real question as to the fitness or unfitness of any case for operation will, I conceive, depend far more upon the exact amount of injury done to the spinal cord, than on whether the fracture engages the portions of the vertebra in front of it or behind. No doubt the operation would have a good chance of being brilliantly successful in such cases as Case VII., XI., XIX., or XX.; but assuredly there are not a few cases in which, although pressure may arise from injury done to the vertebra anteriorly, yet removal of the counter pressure posteriorly will set the cord free from being squeezed. When the body of a vertebra is broken, and, as usually happens, the intervertebral substance is at the same time more or less lacerated, the progress of the case must be, under the most favorable conceivable circumstances, very tedious. The first thing that nature does is to absorb the lacerated fibro-cartilage, and while this is being accomplished little or no callus is thrown out. I find, however, a considerable number of cases reported in which the body of a vertebra is so injured as to press upon the marrow, although no separation of it into fragments has taken place; neither are the fibro-cartilages torn."

"In injuries of this kind, if, by taking away the posterior arch or arches, the pressure on the cord is relieved so as to enable the patient to escape from the immediate risks to life, there may be reason to hope that the patient may ultimately recover, as do cases of curvature of the spine from caries, where the deformity is as great or even greater.

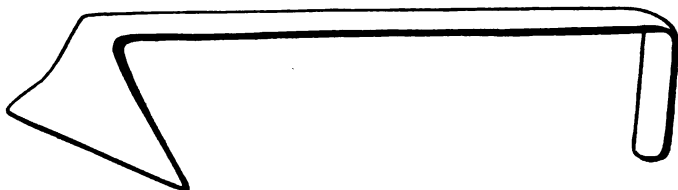
"When, in consequence of a fracture of the spine, the marrow is subject to pressure—but not lacerated—it is usual, unless the pressure be so considerable as to destroy both sensibility and motion below the injury, to find that the functions relating to motion are much more affected than those of sensation; the patient cannot attempt to move his toes or feet; cannot draw up his legs in bed, or even push them down if flexed for him, while feeling may be normal even to the tips of his toes; the sphincters may be paralyzed, yet the patient distinguishes the temperature of an enema, and complains on the introduction of a catheter; if the spinal marrow be lacerated to any considerable extent, or, what is equivalent to laceration, if it has been so roughly compressed as to disintegrate its structure, the case is different—sensation and motor power are then alike lost.

"Between these two supposed conditions there are many degrees; and an accurate examination of the symptoms connected with sensation must be the chief aid in making an accurate diagnosis. The amount of sensibility on one side as compared with the other, and estimated by application of the points of a pair of compasses—the appreciation of the sensation of heat and of cold—of contact, of tickling, and of the position of the limbs—should each be looked to. The amount of voluntary power affecting certain muscles will assist in determining the seat of pressure; and if paralysis of motion is found on one side in a degree much more marked than on the other, while sensibility is observed to be greatest in the part where motor power is least, there need no longer be any doubt that the pressure is chiefly exercised on the lateral half of the cord on that side of the body on which the motor paralysis is found to be greatest."

Dr. M'Donnell next discusses somewhat in detail the value of different symptoms in aiding the judgment, and he here proceeds to describe the operation, premising that there is nothing to contra-indicate the free use of chloroform. "The mode of performance, and the difficulties encountered in accomplishing the operation, vary much in the different regions of the spine, and, of course, in actual practice must vary with the nature of the case and the mode of injury. When the spinous process and laminae only are broken the whole proceeding will be very simple; but even when this is not the case it may be said, that compared with many of the great operations in surgery, that of trephining the spine is not so formidable as has been supposed.

"In the lumbar region and lowest part of the dorsal the operation offers the greatest difficulties. The patient should be placed face downwards, with the feet towards the window, so that the light may fall into the bottom of the

wound. The body should be placed as evenly and flat as possible on its front aspect; but the person who gives chloroform can keep the head turned a little on one side, and somewhat raised, by placing one of his hands under the chin. An incision from four to five, or six, inches long is to be made through the integuments over the spines, with a strong scalpel. A strong curved bistoury is the best instrument with which to divide the muscles on each side of the spinous processes; and this can be done at once more rapidly, and closer to the bone, by entering the point of the bistoury below and cutting upwards and backwards. As soon as the mass of muscles on each side are to a sufficient extent divided, the operator should fix, himself, on each side, a retractor such as is here represented, and give each in charge to an assistant. The broad



flange of such a retractor not only keeps the wound well open, so that the operator can see what he is about, but by pressure prevents hæmorrhage, while the hand of the assistant who holds it does not get fatigued, owing to the other end being bent. The operator should next feel in the sulcus, on each side of the spinous process, for the inequality caused by the injury, and by grasping successively each spinous process, in a pair of necrosis forceps, ascertain whether the posterior portions of any vertebra are broken. He must then determine which laminæ are first to be divided; and before doing this it is well to place sponges, wet with iced water, in the hollows on each side of the spinous processes, and give time for all hæmorrhage to cease.

"Having singled out the spinous process of the vertebra, the laminæ of which are to be divided, the interspinous ligaments above and below it are to be cut, and a part of the process taken off with bone forceps, leaving, however, enough to grasp with the necrosis forceps, when it becomes necessary to remove that portion, after division of the laminæ. The division of the laminæ, in this region, is exceedingly difficult. The trephine cannot be used; and Hey's saw, owing to the depth of the wound, and oblique manner in which the bone must be sawn, is also useless. The division is best accomplished by strong forceps bent at an angle, something like the forceps known as "Fergusson's side-cutting forceps." Experience shows that the laminæ may be thus cut through without fear of injuring the cord or its membranes. As soon as this has been accomplished, the portion of the spinous process still remaining is to be caught in a pair of necrosis forceps and the portion of bone raised and removed by carefully dividing the ligamentous structures still holding it. When the posterior arch of one vertebra has been taken away, the removal of the second is comparatively easy; the best method of effecting this is by nibbling it away bit by bit, with the ordinary gouge forceps.

"It is a much easier matter to remove a spinous process, and the laminæ on each side of it, in the middle or upper part of the dorsal region than in the loins. In its preliminary stages the operation is like the foregoing. When the muscles on each have been divided and retracted, as already described, owing to the mode in which the spinous processes of the dorsal vertebrae are imbricated one over the other, it becomes necessary to remove the spine above that which, with its laminæ, is to be first taken away. This having been done, the spinous process of the vertebra, the laminæ of which are to be divided, should be taken away, as close to its root as possible, with gouge forceps. With a little care the spinous process can be so completely taken off as to leave the surface sufficiently flat for the application of the crown of a trephine, which should in general be about one inch in diameter, and furnished with a strong centre pin, a little longer than usual. As the bone is of much softer texture than

that of the cranium, the trephine once planted, works rapidly, so that after a few turns the centre pin should be withdrawn, and it should then be worked gently until it is found possible to move, and subsequently elevate, the trephined portion; after this is taken out it will be seen that in the dorsal region there is a sort of provision which enables one to use the trephine without much danger of its, in any way, injuring the cord. In fact, the articulating processes of the vertebra, next below, look backwards in such a way as to prevent the instrument from going suddenly in so as to injure the medulla. The posterior arch of a second vertebra may now be easily taken away, either by a second application of the trephine, or, better still, by the aid, simply, of the gouge forceps.

"In the cervical region the removal of the bone can be effected with great facility by the gouge forceps alone; here, as well as in operating on the first dorsal vertebra, the trephine cannot safely be employed. After the skin has been divided and the muscles detached on each side, the interspinous ligaments are to be cautiously cut, taking care not to sink the scalpel too deeply; the spinous process is next taken off with the gouge forceps, and at once the ligamentum subflavum comes into view, and the vertebral canal is opened to a small extent. Bit by bit the posterior arch is then to be taken away by the gouge forceps, until enough is removed. The removal of a second or third can be even more readily accomplished with the same instrument. The retractors employed for holding back the muscles on the neck should not be so broad as those intended for the operation on the back or loins, and the lower edge of the retracting flange should be somewhat convex.

"In all the cases which I have seen the wounds have gone on favorably under the simplest treatment; water dressing at first; and after suppuration has become established, charpie, with simple dressing, or a poultice with some 'warm dressing' under it.

"It is unnecessary to say that every possible attention must be paid to the general health of the patient. He should be placed on a water bed, the bowels and bladder carefully attended to, and any tendency to bed-sores guarded against with the utmost anxiety. For this purpose he must be shifted from side to side, and occasionally placed upon his back, even at the risk of pain in the wound or disturbance of the broken vertebra. To avoid bed-sores and keep the bladder in good order must be the first object of the surgeon, and no entreaties or complaints should influence him in deferring to do what he considers necessary for this purpose. The bed-clothes must be frequently changed, and kept perfectly dry. If any bed-sores have already formed, every effort should be made to get them cured; if the urine is already alkaline and muco-purulent, the bladder should be washed out every day, or several times each day.

"Immediately after the operation the object of medical treatment should be to avoid inflammation of the cord or its membranes, and with this view belladonna or atropia should be administered, with the intention of keeping the medulla as much as possible in a condition of repose; opium should not be given; but if urgently demanded to allay pain, it should be joined with belladonna, in doses proportionally large. Somewhat later iodide of potassium may be ordered, and when all apprehension of inflammation is past, strychnine. Indeed, it will be in different cases a very nice and at the same time very important question to determine whether it may not be good practice to give strychnine early, even at the risk of calling forth inflammatory action in the cord. Of course, its administration would not be contemplated if any tendency to myelitis can be detected. But if pressure on the medulla for a longer or shorter time has given rise to that kind of mechanical softening of it which, without being identical with white or atrophic softening, is closely akin to it, and if it seems that the parts below are not recovering their vital powers after the pressure has been got rid of, it may become necessary to make a desperate effort to arouse the dormant energies of this portion of the marrow, regarding the chance of exciting inflammation of it as the less great danger of the two. Under these circumstances I should not hesitate to give strychnine cautiously before many days after the operation.

"Shampooing of the limbs and the use of electricity should be early applied, in order to arrest the atrophy of the muscles. Whatever doubt may exist as to

giving strychnine at an early period after the operation, there need be none about its administration after the risk of inflammation is past; it should then be added to good nourishing diet, with wine, beer, and iron tonics."

(C) CONCERNING THE UPPER EXTREMITY.

ART. 112.—*Excision of nearly the whole of the Ulna. Reproduction of the Bone.*

By J. K. WEIST, M.D.

(*Cincinnati Lancet and Observer*, March, 1866; *New York Medical Journal*, April, 1866.)

Col. C. received, Oct. 27th, 1864, a gunshot wound in the left arm. The ball entering on the inside of the arm about two inches above the wrist joint and passing upwards, made its exit on the outside of the arm about three inches below the point of the olecranon, badly breaking up the ulna in its passage, leaving, however, both of the articulations intact. Two days after the receipt of the injury it was deemed advisable to remove the broken fragments of the ulna by an operation. This was done by making an incision down to the bone, and extending from the wound of entrance to that of exit. Many fragments of bone were removed, which together made up almost the entire bone. There only being left behind about two and a half inches of the upper and one inch of the lower end, the broken ends of these portions of the bone left behind were smoothly sawn off. Although the periosteum in this case was much lacerated and torn, it was carefully separated from each fragment removed, and its connections as little disturbed as possible. After the operation the arm was placed upon a splint, and the wound treated in the usual manner. And although this officer was unavoidably placed under bad hygienic influence in general hospital, where considerable sloughing and secondary hæmorrhage occurred, greatly protracting the cure, the final result was highly satisfactory, as the lost bone was reproduced; and when Dr. Weist examined the arm last October, just one year after the operation, all of its functions had been regained, with the exception of a slight loss of power to rotate the arm. The new ulna, though not quite so symmetrical, seemed to have all of the solidity and value of the one in the uninjured arm.

ART. 113.—*Successful Extirpation of the Entire Left Scapula and Acromial End of the Clavicle, with Preservation of the Arm.*

By A. HAMMER, M.D.

(*St. Louis Medical Reporter*, March, 1866; *New York Medical Journal*, May, 1866.)

The case was that of a young lady, about eighteen years of age, having a tumor situated upon the exterior surface of the left scapula. The size of the tumor was about that of an orange, occupying the infra-spinous fossa, scarcely movable, of a round shape, a smooth and even surface, and the skin of natural color, not adhering to the tumor, but free and movable upon it. Palpation conveyed the idea that it was a well developed fibroid. No pain was felt upon the most severe pressure, and only to a slight extent in the afflicted region when the arm was made subject to sudden and forcible action. No swelling of either the axillary or supra-clavicular glands; and all the functions of the general system were, in fact, perfectly normal. Her whole appearance was the personification of general good health. The history of the case is as follows:—About two years ago she unexpectedly discovered a small tumor, the size of a hazel-

nut, the one in question, and situated as already described. Its presence occasioned no inconvenience, much less any pain. From that time on it grew slowly and steadily until it reached the size mentioned. Since early infancy she had never been subject to any sickness, and, within her recollection, had never received a mechanical injury of the afflicted scapula. Dr. Hammer concluded that the tumor was a hard, fibrous growth, having a broad base, and arising from the periosteum of the scapula. He, therefore, proposed the extirpation of the tumor. In the latter part of September, 1860, he proceeded to the operation. Under the full influence of chloroform, an incision was made a little above, and parallel with, the spine of the scapula, its entire length, and then another parallel with, and about an inch to, the inner side of the posterior or vertebral border of the scapula, extending to the inferior angle. These incisions admitted of two flaps—one, the larger, and situated external to the vertical incision; the other, internal. After the dissection, Dr. Hammer at once discovered his mistake of diagnosis; the hardness of the tumor, wherein it simulated fibrous tissue, was gone. It was now soft, elastic, and easily compressible, adhering firmly to the bone, and slightly encroaching in some situations upon its margins. He remarked that the tumor was most likely of a malignant character, either a sarcoma or true cancer, which would require resection of the scapula, either in part or *in toto*, according to the extent of the growth. The operation was, therefore, discontinued. The microscopical examination confirmed his supposition, exhibiting the elements of the encephaloid form of cancer. Being now intimately acquainted with the nature of the disease, Dr. Hammer proposed the extirpation of the entire scapula as the only means of removing the tumor. The margins of the incisions had become thickened and infiltrated with cancerous elements to the width of about half an inch. These were freshened by making new incisions at least one inch distant from the former ones, extending the first incision parallel with the spine of the scapula upwards and forwards upon the acromial end of the clavicle. The insertion of the trapezius and deltoid to the spine of the scapula was cut away, as were also the attachments of muscles to the vertebral and superior borders; then about three-fourths of an inch of the acromial end of the clavicle was removed by the chain saw, the shoulder joint opened by a transverse incision, and the head of the humerus dislocated. The origin of the short head of the biceps, coracobrachialis and pectoralis minor was detached from the coracoid process, the subscapularis cut away near its insertion into the lesser tuberosity, and the exsection completed by dividing from above downwards the supra-spinatus, infra-spinatus, and the muscles arising from the axillary border; the latissimus dorsi was saved by separating it from the teres major at the interior angle. After the hæmorrhage had been arrested, the wound was united by eighteen wire sutures, the arm then brought into such a position that the head of the humerus exactly corresponded in its relations to that of the opposite side, supported by a wedge-shaped pad placed in the axilla, and retained by a bandage similar to that recommended by Desault for fracture of the clavicle. The wound healed by first intention in by far its greater extent. The resected end of the clavicle effected a circumscribed inflammation, which resulted in an ulceration of the skin and exposure of the bone; the cut surface, however, became necrosed in the space of three weeks, and was detached. Healthy granulations then sprung up, followed by rapid cicatrization,—the cicatrix, of small size, firm, and somewhat funnel-shaped, connecting securely the clavicle to the skin above and the rib beneath. In six weeks the wound had entirely healed and she was perfectly well; yet it was necessary to support the arm in a handkerchief fastened about the neck. In another six weeks, three months after the operation, the arm was secured in its new position, the head of the humerus being firmly fastened to the ribs by fibrous adhesions and the formation of a sort of new glenoid cavity. In March, 1861, the disease recurred in the shape of a small glandular swelling in the supra-clavicular region. It increased steadily and rapidly, until it reached the size of an egg, when it was removed. In a short time it reappeared in the cervical vertebræ, and rapidly invading the spinal marrow, the patient died in July, 1861.

ART. 114.— *Successful Resection of both Bones of the Forearm, for Ununited Fracture of long standing.*

By SAMUEL J. JONES, A.M., M.D., Surgeon U. S. Navy.

(*American Journal of the Medical Sciences*, July, 1866.)

Charles Donald, aged forty-three, mariner, constitution good, received a fracture of the radius and ulna of his left forearm, produced by the fall of a spar in New Orleans, in March, 1864. After the accident the mobility continued to be so great at the seat of injury — the junction of the middle and upper thirds of the forearm — that an effort to hold the forearm in a horizontal position was attended with marked inclination of the limb below the seat of injury. Every attempt to use the limb caused it to become swollen and painful, thus preventing him from engaging in any employment.

Fifteen months after the original injury, Dr. Jones first saw the patient, and found the condition described, and at least one inch of shortening in the forearm. By making an H incision on the dorsal aspect of the forearm, one incision being made lengthwise over the radius, and another over the ulna, and uniting the two by a transverse one made at the points of the fracture, the parts were exposed, showing that firm ligamentous union had taken place, binding down the ends of the bones. The fragments had been prevented from uniting by the interposition of muscular fibres, around which the ligamentous bands had accommodated themselves. The fracture was an oblique one, and the lower fragments were over-riding the upper, thereby causing the shortening. The ligamentous bands were divided in the operation, and the fragments that had become rounded at the ends were removed by means of a chain saw, so as to bring the square surfaces in apposition, which left the arm still about one inch shorter.

The hæmorrhage was very slight, and the wound was closed with interrupted stitches, and an internal and an external splint applied; the latter having a rectangular opening left at the point of incision to dress the wound. Cold water-dressing was applied.

It soon became apparent that those splints did not accomplish the desired object of keeping the ends of the bones in apposition, and Passed Assistant Surgeon William C. Lyman, U. S. Navy, suggested the use of a modification of the ordinary fracture-box, in which the forearm should be supported by means of adhesive plaster secured to the outside of the box, and descending two-thirds of the distance to the bottom on the inside, and both bones kept in a vertical position, by packing each side of the forearm with charpie. This packing could readily be graduated as occasion demanded, and the adhesive strips afforded sufficient support for whatever pressure was made, and the temperature was easily regulated by moistening the charpie with water at the temperature desired. The limb did not reach to the bottom of the box by an inch or more, and the dripping resulting from any excess of discharge or too free use of the water-dressing, was prevented from running out of the box into the patient's bed by means of pieces of lint or other absorbing substance placed in the bottom of the box, and readily removed, whereby the dressing was rendered very clean and neat, as well as very cool. Two difficulties were, however, encountered. The strip of adhesive plaster at the points where the ends of the bones were in apposition seemed to press too directly on them, making an acute angle in the ulna, instead of allowing it to lie horizontally. This was remedied by placing a splint on the strips, on which the forearm rested throughout its length.

The second difficulty was to give to the box sufficient motion to prevent movements of the body from displacing the fragments, if those movements were sudden, as was the case while the box lay upon the bed by the side of the patient. This was remedied by suspending the box from a point higher than the

patient, who raised or lowered the box himself at will. Thus, after a few weeks, he could rise from his bed, and occupy a chair by his bedside, by simply shifting the suspending cord to the desired height.

The arm was kept in the box for eight weeks, and on its removal therefrom it was found that the union was sufficiently firm to prevent dropping of the hand when the arm was held in a horizontal position as it had done before, but the union was again only ligamentous.

After allowing about a month to elapse for the patient to recover from his confinement, the original incisions were reopened, and the ligamentous bands with less than one-fourth of an inch from each fragment of the bones removed, again bringing the flat surfaces in apposition, and firmly securing them there by means of silver wire. The forearm was then again placed in the fracture-box, and treated as in the first operation. At the end of eight weeks it was removed from the box, and supported for a short time by a temporary splint, the incisions having closed except where the twisted wires were projecting.

On Dr. Jones's detachment from duty at New Orleans, the case was left in charge of Dr. Heber Smith of that city, who subsequently removed the wires by untwisting them and forcibly drawing them out. He reports that in December, six months after the first operation, and twenty-one months after the original injury, the openings had finally closed, and osseous union had taken place in both radius and ulna, giving the man a quite useful arm, though nearly one and a half inch shorter than the other. The displacement of the fragments from the time the injury was received caused the muscles of the forearm to adapt themselves to the change, and the absorption caused thereby left the muscles in proportion to the length of the bones remaining, which proved to be an advantage.

The dressing used in this case commends itself for its cleanliness, for the ease with which it can be applied and changed, and for the convenience with which pressure can be graduated as desired. It seems applicable to all cases in which the fracture-box is ordinarily used.

During the eight weeks that the limb was each time in the box, it was only necessary to change the adhesive strips once, except the one strip at the point of the transverse incision where the discharge was greatest, all the strips adhering firmly to the wood until removed.

ART. 115. — *Case of Fracture of Both Clavicles.*

By M. FOUCHER.

(*Journal of Practical Medicine and Surgery*, 1866.)

The following case of this rare accident was admitted into the Hospital St. Antoine, under the care of M. Foucher. The patient was a stonemason, aged thirty-eight years, and he had been injured by the falling in of a ceiling. When he was brought into the ward, on the 7th May, he was in a comatose condition, his breathing was stertorous, and he appeared to suffer pain on pressure of the thorax. On the 8th, M. Foucher found him conscious; he complained of difficulty of breathing, but had not expectorated any blood. Both clavicles were fractured in the middle. On the right side the fragments were not much displaced or movable, but on the left the fragments overlapped each other, and their position could not be corrected. The ribs were apparently uninjured, but the right fibula was broken. When the ceiling fell in, the patient was working in a crouching position, and had fallen backwards. Two triangular slings were applied for the support of the elbows, and the man was ordered to lie flat on his back. Fortunately for the cure of the fractures of the clavicles, the patient was compelled to keep his bed up to the 1st of June, on account of an eschar caused on the right leg by the pressure of a bandage pre-

pared with the silicate of soda, despite a thick padding interposed between the apparatus and the integument.

On the 12th of June he was removed to the convalescent hospital of Vincennes. The collar-bones were scarcely deformed, although on the left side the callus was irregular and voluminous. The movements of the arms were free, and painful only when any attempt was made to raise a weight.

This case is a fresh illustration of the inutility of bandages in fractures of the clavicle, provided the patient keeps the horizontal attitude. This view has repeatedly been urged by Mr. Vincent; and we may further observe that fracture of both clavicles is so unfrequent that Malgaigne adduces but six instances of the double injury. This author makes no mention of the great difficulty of breathing noticed in the present case, and he adds that in his patients consolidation was imperfect, and even failed altogether in three of the subjects. In the instance we have recorded above, consolidation was effected under the unaided influence of the horizontal attitude, and it may safely be asserted that the subsequent deformity will be extremely unimportant.

ART. 116. — *On Dislocation of the Shoulder-Joint.*

By Dr. G. HAMILTON, Falkirk.

(*Edinburgh Medical Journal*, September, 1866.)

Dr. Hamilton offers some suggestions on the reduction of a dislocated shoulder-joint, first quoting the opinions (not always favorable) of those surgical authorities who have discussed the method of procedure, a modification of which he advocates. He says:—

“About two years since, I met with rather a difficult case, in the person of a large-bodied and very muscular man, in which I took advantage of a huge arm-chair, with a strong high back, which I found in the house. On this I placed a pillow, for the axilla to rest upon, and with the assistance of two strong men I reduced the dislocation very satisfactorily. Another followed, shortly afterwards, where I had no suitable arm-chair, but where I found a common screen for drying clothes, and this, with the pillow, also did very well. In a third case, neither of these being at hand, I mounted the patient on a table, placed the axilla on a pillow on the top of a door, and succeeded equally well. About six months since, I had, unfortunately, to make personal acquaintance with this accident. In passing over a railway bridge, my horse took fright at a passing train, and came down with me. In stretching out my right arm to save myself, dislocation at the shoulder took place, of which I was immediately made aware by the ugly tearing sensation that occurred. Fortunately, a house was near at hand, in which I received shelter. Without losing a moment, I looked about for some suitable apparatus with which to effect reduction. Finding nothing better, I got a narrow table, on which I placed, on its side, a long narrow stool, such as is found in cottars’ houses. On the top of this I had a pillow placed, on which I rested my axilla, my body being placed between the two feet of the stool. Two strong men, who were at hand, kindly lending their assistance, reduction was effected after a few minutes’ traction. I was so much pleased with the results in these instances, that I was thinking of having constructed a suitable apparatus which I could keep by me for use in such dislocations, when I cast my eyes upon a set of painters’ steps, which immediately struck me as precisely the article I wanted. I have used this now in three cases, and its use seems to me to give very considerable advantages over the modes of reduction generally employed.

“The ‘steps’ I use are 4 feet 10 inches high, and the movable support should be fixed with an iron rod, and not with a rope, as is often the case, as the former secures a greater amount of steadiness. A pillow is laid across the top step, and the patient ascends as high as may be convenient, of course placing the axilla on the top of the pillow. One or two assistants now lay hold

of the arm, drawing, at first, steadily outwards and slightly downwards, traction in the latter direction being gradually and cautiously increased by approximating the arm to the steps. Reduction, in all the cases I have had, has been effected easily, and even, if I may use the expression, elegantly, but none of the dislocations had remained unreduced for more than twenty-four hours. The greater power that we here possess, however, seems to me to render it highly probable that, in cases of longer standing, this simple apparatus will also be found very efficacious.

"The three agencies mainly to be relied on in ordinary cases of shoulder-joint dislocation are evidently extension, counter-extension, and leverage, and especially the combination of these. When the dislocation has remained long enough unreduced for adhesions to form, perhaps, also, the putting in practice preliminarily some such manœuvre as Sir Astley Cooper saw the Lancashire bone-setters use, where they rapidly whirled round the arm before attempting reduction, may be of importance to the operator.

"In using the 'steps,' their height is very convenient for exercising extension, while the counter-extension required is made to a great extent by the weight of the patient's body, the rest being easily supplied by the foot of an assistant. The height, again, is very important in exercising leverage power, and its amount at command is enormous, and of course requires caution in its use. In laying hold of the arm of a person placed in position for experiment, I have the feeling that I could with ease, if I wished, produce either dislocation or fracture of the humerus. Here, also, the combination of these powers is easy and natural, simply by causing the assistants to approximate the arm to the steps. Almost all our best surgeons have dwelt upon the importance of employing leverage in these cases, and yet the usual modes of reduction supply this very inefficiently. The heel in the axilla, or the knee of an assistant, gives us but little; while, when the pulley is employed, leverage power, from the points of extension and counter-extension being fixed, is necessarily lost altogether. To remedy this, I recollect seeing Mr. Liston, as he recommends in his *Operative Surgery*, endeavor, with a towel, under the patient's arm, to lift up the head of the humerus; but the power given by this means is evidently very slight compared with such leverage as can be got in using the 'steps.' With these, even should the pulley be used, leverage could easily be combined with extension, by gently moving the steps forward; or, perhaps, this might be done more effectually and continuously by having wheels attached to the steps.

"In brief, this modification of the usual modes of reduction of these dislocations, which I have proposed, seem to possess the advantages:—

"1st. Of enabling the surgeon to dispense with his personal exertions.

"2d. It gives an amount of power in extension and leverage limited only by a consideration of the resistance possessed by the tissues; and it also enables the operator easily and naturally to combine these powers.

"3d. The position of the patient gives perfect freedom for the administration of anæsthetics, if such should be wished or required."

(D) CONCERNING THE LOWER EXTREMITY.

ART. 117.—*Dislocation of the Head of the Fibula, with Fracture of the Tibia.*

By Dr. FOUCHER.

(*Gazette des Hôpitaux*, 1866; *Schmidt's Jahrbücher*, 1866.)

A man, thirty-six years old, going home at night tipsy, quarrelled with a passer-by and received several kicks on the right leg, from the effects of which he fell and could not get up again. He was conveyed to the hospital of St. Antoine, and when examined on the following day, it was found that the right tibia was fractured at the junction of the upper with the middle third. The fracture

was oblique, and the upper fragment projected forwards. Notwithstanding some swelling, an unnatural projection was observed at the upper part of the leg on the level of the spine of the tibia, and close to the insertion of the ligamentum patellæ. Behind this projection was a cord-like elevation. The projection was evidently the displaced head of the fibula, and behind it could be felt the articular facet. The fibula was unbroken, and held an oblique direction from above downwards and backwards. The knee was somewhat flexed, and the tendon of the external head of the biceps formed the cord-like elevation. The foot was somewhat abducted, the peronei muscles tense, and the patient had not only acute shooting pains in the leg, but also sensations of numbness and tingling. The displaced head of the fibula could be easily reduced without noise, and its mobility was so great that it could be carried back behind its proper position. The fibula could indeed be moved as a whole, and could be lifted off from the tibia at both its extremities; so that the ligaments binding it to the astragalus and calcaneus must have been torn. The ankle-joint appeared wider than usual between the malleoli. The fracture being reduced, and the fibula replaced, the leg was somewhat flexed, and laid in a padded fracture-box. In six days the swelling had subsided, the pain from the injury to the peroneal nerve had ceased, and the head of the fibula was stationary in its proper position. A starch bandage was then applied, and worn until recovery was complete.

Dislocations of the upper tibio-fibular articulation are so uncommon, that every recorded example possesses interest for surgeons. In this case the rapid recovery is remarkable.

ART. 118. — *Case of Dislocation of the Foot forwards.*

By Dr. WILLEMIN.

(*L'Union Médicale*, 1866; *Schmidt's Jahrbücher*, 1866.)

A woman, thirty-eight years old, of lymphatic temperament, but in good health, slipped upon the floor of a room while carrying a heavy child in her arms. She fell backwards, with her right foot bent under her, so that the heel struck against the nates. She immediately felt acute pain in the right foot, which increased, and produced faintness. When examined, soon after the accident, the foot was in dorsal flexion, and presented on its summit a projection two or three centimetres in height, that could be identified through the tense integument as the articular surface of the astragalus. The malleoli were uninjured, and the projection of the calcis was displaced forwards to an extent corresponding with the elongation of the dorsum of the foot. The foot was quite immovable by the patient. Grasping and elevating it, the author brought it gradually into plantar flexion, and pressed the leg forward with the other hand. After a few minutes, reduction took place with a loud snap. Wet compresses were applied round the ankle; and when, in a few hours, considerable painful swelling followed, bladders of ice were substituted for them. Much ecchymosis appeared, the swelling remained the same for six days; the patient complained of pain from the slightest touch, and the skin about the ankle was very sensitive. After the sixth day warm compresses with lead lotion, and after the tenth day simple wet compresses were applied. By the seventeenth day the swelling had much subsided, and a brownish-red discoloration extended from mid-leg to ankle. The ankle-joint itself was still somewhat swollen and sensitive. A starch bandage was applied, and left undisturbed for fourteen days, by which time the swelling had almost disappeared. While renewing the bandage, the author felt a crepitant friction in the joint, but could not discover any fracture. The foot possessed slight power of flexion and extension, but the lateral and rotation movements were more free than in the normal state, and during them the crepitus was felt. The points of the malleoli were further apart by six millimetres than in the uninjured foot, and the external malleolus

seemed to possess an unnatural degree of mobility. Professor Bach was called in consultation, and believed that the tibia and fibula had been separated. A starch bandage was worn for many weeks, and the crepitation disappeared. The patient was allowed to move about on crutches. On the fiftieth day a slight bandage only was applied, and a padded shoe. Unfortunately the swelling returned in great severity, so that the starch was again required, and ten months elapsed before recovery was complete.

The above form of dislocation is extremely rare, and only three or four instances of it have been recorded.

ART. 119. — *Elephantiasis Arabum, or Elephas, Successfully Treated by the Application of a Ligature to Main Artery of Limb.*

By THOMAS BRYANT, F.R.C.S.

(*Proceedings of Royal Medico-Chirurgical Society, 1866; British Medical Journal, September 8, 1866.*)

The author, having made some general remarks on the disease, related a case of elephas, which occurred in the person of Mary T., aged twenty-five, the daughter of Welsh parents, who was admitted into Guy's Hospital under his care on October 10th, 1865. She was a single woman, of healthy aspect, and had always enjoyed good health, never having had any illness of much importance. Ten years previously she had scarlet fever, which was unaccompanied by any of its ordinary complications; and it was during her convalescence from this disease that her left leg began to swell, the swelling beginning in the calf and extending upwards towards the knee; it was unattended by pain or any indication of general disease. For two years the enlargement was gradual, when she slept in a damp bed, and after this the disease progressed more rapidly, and extended upwards to the thigh. This increase was still, however, perfectly painless. She was subsequently admitted into the Carmarthen and Swansea Infirmary, where all kinds of treatment were tried, but without success, the disease gradually progressing. Three years since, some small ulcers appeared in a deep sulcus in the calf, from which a quantity of dark fluid like blood escaped; the ulcers subsequently healed.

On admission, the left leg was found to be enormously enlarged from the ankle to the groin. To the hand it felt hard and brawny, the skin and cellular tissue being evidently infiltrated with a fibrinous material. Several deep sulci also existed between the folds of integument in the calf. The skin appeared to be coarse, but it was free from the cuticular induration and ulceration which is so frequently associated with this affection. It was also noted that the foot was perfectly sound. The measurements on admission were as follows:—Round the left or diseased calf, 24 inches; round the right, 15½ inches; round the diseased thigh, 28 inches; round the right, 21 inches. The temperature of both limbs appeared to be alike. The pulsation in the left iliac artery was clearly to be felt; but the femoral and tibial vessels of the affected limb could not be made out. The patient was kept in bed for three weeks, with the leg well raised on an inclined plane. In the first week the calf had diminished an inch and a half, and the thigh one inch, all cedema having subsided; but after that date no further decrease took place. On the 31st of October the external iliac artery was ligatured, the patient being under the influence of chloroform. The vessel appeared to be perfectly healthy, and of normal size. The whole limb was subsequently swathed in cotton-wool, and raised as before. The subsequent progress of the case was one of uninterrupted success. The limb rapidly became softer and smaller, the calf measuring at the end of the week 19½ inches, and the thigh 24 inches, being three inches less than it was on the day of operation. At the end of the second week the limb had diminished another inch; and on the fifteenth day the ligature came away from the iliac artery, the limb all this time having been free from pain, and quite warm. By

the 30th of November the wound had quite healed, and the patient's health was very good. By the 30th of December the calf had become reduced to 18½ inches; by January 31st it measured 16½ inches; by February 21st it was only 15½ inches; and on March 15th it measured 15½ inches, being but three-quarters of an inch larger than the sound limb. The skin had gradually contracted, and had become natural in its aspect; all brawniness of the limb had also gone. The patient at the present date is walking about with an elastic legging, perfectly sound.

ART. 120. — *Case of Fracture of the Leg by Muscular Action.*

By Dr. HEVLHARD D'ARCY.

(*Journal of Practical Medicine and Surgery*, September, 1866.)

Dr. D'Arcy relates the following case:—

Mr. X., aged forty-two, the head clerk in a lawyer's office, a man of vigorous constitution, was standing, one evening in the course of last January, near a window, his hand resting on a sill. In moving away, his left foot slipped on the waxed floor; he made a violent effort to recover his balance and experienced a sudden pain, accompanied by a snapping sound in the right leg. He fell into a chair, from which he found it impossible to rise. Dr. D'Arcy was immediately summoned, and he discovered a fracture of both bones of the leg, somewhat below the middle region of the limb. The fracture of the tibia was extremely oblique, the sharp point of the superior fragment protruding beneath the skin, which fortunately was not perforated. The leg was placed in semi-flexion on a raised cushion so as to relax the extensors of the knee, the eighteen-tailed bandage was applied, and the fracture was closely watched. After an interval of six weeks, a simple roller was substituted for the bandage, and the patient was permitted to stand in his room on crutches, but was cautioned against any attempt to support himself on the injured leg. In spite of this precaution, severe pains having recurred in the fracture, Dr. D'Arcy examined the limb, and was much surprised at finding it shortened by nearly one inch. Muscular contraction, the original cause of the accident, had again caused displacement of the fragments which the day before seemed to have solidly knitted. The resistance met with in the efforts to restore coaptation was so considerable, that fearing the ill effects of sudden and violent tractive efforts, Dr. D'Arcy applied an apparatus calculated to secure continued extension; he constructed this appliance on the indications of a young American surgeon. It consisted in a jointed box, partially filled with saw-dust; counter-extension was obtained by straps affixed below the knee, and extension was effected by the action of a screw which drew down an iron rod secured to a wooden plate attached to the sole of the foot. Without much effort the fragments were slowly restored to their proper situation, and complete consolidation followed in the course of twenty-five days. A shortening of two or three lines was inevitable, but produced no perceptible lameness.

This case, which throws some light on the mode of production of fractures, also shows that in very oblique fractures muscular contraction may induce secondary displacements, which are to be avoided by keeping the limb in the apparatus for a much longer period than is generally deemed necessary.

PART III.—MIDWIFERY.

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

(A) CONCERNING PREGNANCY AND PARTURITION.

ART. 121.—*Cases of Rupture of the Uterus.*

By Dr. ERNST KORMANN.

(*Inaug. Dissertation*, Leipzig, 1864; *Schmidt's Jahrbücher*, 1866.)

Dr. Ernest Kormann reports the two following cases, with special reference to their forensic application :

CASE 1.—A servant, twenty-eight years old, of middle size, rather feeble frame, and moderately well nourished, was admitted into the Leipzig Lying-in Hospital on the 13th of September, 1864. Three years before she had passed through chlorosis, small-pox, and typhus; and since then her menstruation had been irregular. Two years ago she gave birth to a still living male child with difficulty, but without artificial help. She made a good recovery, and sucked the child for four weeks.

The patient dated the beginning of her then pregnancy from the commencement of January, and was supposed to be in the thirty-eighth week, or middle of the tenth lunar month. Examination showed a transverse position of a moderately-sized foetus, with the head towards the right side and forwards, and the back backwards, and with a large quantity of liquor amnii, rendering the abdomen very pendulous. The foetus remained in the same position until delivery (October 27th). The pains, at first moderately strong, increased by degrees; and the liquor amnii escaped at half-past two in the afternoon. Version was performed under slight chloroform narcosis. During the operation the patient lay upon her left side, and the uterus was supported from without. The operator guided his hand along the left anterior wall of the uterus to the summit of the cavity, in order to grasp the feet. On account of strong contraction, he only succeeded in securing the right foot. In spite of firm traction, the trunk did not descend; and Professor Credé passed his own hand in the same direction into the uterus, drew down the other foot, and completed the extraction, in which only the delivery of the arms was attended with any difficulty, and this was overcome without any considerable loss of time. The head followed by the use of the Prague hand-grip.

The foetus was dead from asphyxia; it was very large and strongly built, weighed nine pounds five ounces, measured twenty inches and a half in length, and the diameters of its head and body were somewhat more than normal. An assistant sought in vain for the placenta in the cavity of the uterus; and Professor Credé, then making an examination, found a rent in the right side of the uterine neck, and through this rent he withdrew the placenta from the abdominal cavity. A towel was bound round the abdomen, and an endeavor was made by compresses beneath it, to fix down the uterus from above. (At what time the delivery was effected, and how long the various manipulations were in progress, is not stated by the author.)

An hour after delivery the face was pale, forehead and ears cool, pulse regular, rather full, 110, temperature scarcely raised, respiration, 28. At evening the respiration was more oppressed, face warmer, pulse 112. On the 28th, very early, after the patient had slept until 1 A.M., there was marked collapse; the

face reddened, feeling of anxiety and restlessness, pains in the abdomen, and vomiting. At 7 A.M., the temperature was 30.3° R., pulse full, 108, respiration 32. At 10.45 A.M., the vomiting had recurred frequently; at 1 P.M., it had subsided, but returned once at 6 P.M. The patient had slept a little, but with frightful dreams. After dinner two ounces, and in the evening four ounces, of urine were drawn off by the catheter, rich in lithates, but containing no albumen. In the evening the ears and extremities were warmer. At 9 P.M. pulse 136, temperature 30.3° , respiration 32. On the morning of the 29th the patient felt tolerably well, but had once during the night vomited some greenish watery fluid. Pulse 116, temperature 30.4° , respiration as before; red patches on the cheeks. At 11 A.M., the vomiting returned. After dinner, indications of acute reaction, dry tongue, repeated vomiting, during which gushes of blood passed from the vagina. In the interval there was a discharge of thin brownish-red fluid. Temperature 31° , pulse 120, respiration 28° , abdomen more distended, less painful. 6 P.M., temperature 31.1° , pulse, 116, respiration 24. 9 P.M., 31.3° and 132. In the night one attack of vomiting, and the matter vomited had a feculent smell. On the 30th, the general symptoms remaining the same, an apathetic condition set in about mid-day. On the 31st a digital examination showed that the vaginal portion of the uterus had undergone natural involution. It was short, with open orifice, and no portion of intestine could be felt in or above the rent. The finger was found coated by foetid, dark-brown, greasy mucous matter. The abdominal bandage was loosened; and a clyster of soap and water administered, and repeated towards noon. It was followed neither by vomiting nor stool. The facial expression was somewhat easier, the circumscribed redness of the cheeks less. From this time the symptoms of septic metro-peritonitis, with exudation, regularly increased, and the patient died at 7.30 A.M., on the 2d of November.

Autopsy.—On opening the abdominal cavity, the stomach was found much distended, covering the distended cæcum on the right, and the descending colon on the left, with the sigmoid flexure lower down. Between the lower end of the descending colon, lying in the ileo-cæcal region and the abdominal wall and commencing two inches and a half above the symphysis pubis was an inclosed collection, containing foetid gas in its upper portion, and below some ounces of dirty-red, stinking fluid. The corresponding peritoneal surfaces were covered by a firmly adherent substance, a line and a quarter in thickness, partly greenish, partly grayish-yellow, and interspersed with a few old blood clots. The descending and transverse colon, and the middle portion of the great omentum, were firmly adherent to the boundaries of this collection in the whole of the right halves of their surfaces. When these adhesions were separated, it was seen that between the convolutions of the small intestine, and in the posterior part of the peritoneal cavity, there was a quantity of dark red, bloody fluid, containing very fine gray particles.

The uterus projected about an inch and a half above the symphysis pubis, and lay close to the anterior wall of the pelvis. It measured 17 centimetres in length, from 12 to 13 in width, and 5 in thickness. Texture very lax. The Douglas's space commenced $2\frac{1}{2}$ centimetres above the lower end; and the peritoneum was absent over a nearly circular space, $2\frac{1}{2}$ centimetres in height, and 3 centimetres in width. In the middle of this space, and (with the uterus in its natural position) looking towards the right posterior wall of the pelvis, was a hole which was stretched by the finger from $2\frac{1}{2}$ centimetres to 5 centimetres in diameter, and which extended downwards through the cervix and os uteri into the vaginal wall. At the bottom of the rent the plíce palmatæ were clearly visible, much reddened, and covered in places with greenish-gray exudation. To the right and left, flaps of uterine tissue projected outwards from the edges of the wound. At the lower part of the rent the serous investment was torn a centimetre and a half below the tear in the cervical tissue, and down to the point where the vagina is inserted into the cervix; so that, when this part also was broken through, the fissure extended into the vagina. The fissure passed from the point of insertion of the posterior vaginal wall into the cervix uteri, a little to the left from the middle line, in a zigzag direction obliquely upwards and outwards to the right side for a length of eight centimetres, measured in a

straight line; then bent at an acute angle to the left, and terminated six centimetres from the median line.

No trace of the os uteri internum could be discovered. On opening the anterior aspect of the vagina, by an incision four inches long, it was seen that the rent, although it passed through the whole substance of the uterus, began fully half a centimetre above the inner margin of the external os. In the place of the vaginal portion there was a swollen and fissured ring of very soft and lacerable tissue, from one-half to two-thirds of a centimetre in thickness, oedematous towards the uterine cavity, and gaping to the size of a shilling. The anterior lip was from 1 to $1\frac{1}{4}$ centimetres, the posterior from 1 to $2\frac{1}{4}$ centimetres in length. An incision through the upper part of the fundus uteri displayed very pale, but otherwise normal tissue, from 2 to $2\frac{1}{4}$ centimetres in thickness. From the cavity escaped some turbid red fluid. The external surface of the uterus and its appendages appeared covered with exudation; the vagina very wide, in most places bluish-red, soft, smooth, shining; the lower portion and the genital fissure superficially ulcerated. Other organs presented nothing important.

In this case the author believes that the size of the child and the thinness of the right side of the uterus posteriorly must be regarded as the causes of the rupture. It is probable that in the perfectly well-performed version the body of the fœtus would be pressed towards the right side, and that the uterine tissue would be so much extended, either by the fœtal head or arm, as to give way. In the second position of the feet the left arm would pass through the rent into the abdominal cavity. The right arm having been first drawn down, the left was treated in the same way, and, in its passage back through the rent, in a direction downwards and forwards, would enlarge and complete the opening. The disproportion between the thickness of the uterine wall at the fundus and at the seat of laceration must be regarded as a predisposing cause of the accident.

CASE 2.—A married woman, in her twenty-ninth year, and third pregnancy, admitted into hospital on the 31st of May, 1864. She had menstruated from her sixteenth year without pain. On the 31st October, 1859, she was delivered of a full-grown dead female child by forceps, after a lingering labor; and was under treatment for subsequent peritonitis until the 20th of December. On the 23d of April, 1863, she was delivered of a male child, also dead, with great difficulty, but made a good recovery. When admitted she was in the thirty-seventh or thirty-eighth week of pregnancy. She was a small, but strong woman; and examination revealed much projection of the promontory of the sacrum, with a conjugate diameter of $2\frac{1}{4}$ seconds. The child lay in the first position of head presentation. In order to produce premature labor, a bougie was passed into the uterine cavity on the 2d of May, at 7.50 A.M., after a preceding vaginal injection. By 11.30 weak pains were recurring every three or four minutes. By 8 P.M. they became energetic, and continued so until four the next morning. The os uteri dilated slowly, and the liquor amnii trickled away. From then until 6 A.M. the pains abated, when they returned with great severity and frequency, and by 6.30 P.M. the os was fully dilated. At that time the previously regular and clearly audible heart-sound became feeble; and as some blood had escaped, Professor Crédé performed turning under chloroform, and delivered the arms. The head could not be brought through the pelvis, and cephalotripsy was required. The placenta was thrown off spontaneously in three minutes.

Immediately after delivery the patient showed greatly increased sensitiveness. The slightest touch of the abdomen was painful, and the pulse very rapid. Temperature but little elevated. Collapse set in at 10 P.M., and the patient died at 4.30 the next morning.

The abdomen was found to contain about two pounds of fluid blood, together with coagula. The uterus was 7 inches in length, 5 in width, 3 in thickness. On laying it open, a rupture 5 inches in length was found to extend upwards from the external os, and to terminate in a bifurcation.

Kormann infers, from the agitated state of the patient before delivery, that the head had already injured the uterus prior to the turning. The weakening of the heart's sounds was probably due to the escape of blood into the abdomen.

After minutely describing a third case, and after referring to sixty others, the author states his conclusion as follows:—

The maternal predisposing causes of uterine rupture are anomalous conditions of the pelvis (such as pointed exostoses, or unusual sharpness of the promontory); diseases of the uterine walls (such as thinness, local atrophy, fatty change, cicatrices from former Cæsarian section, or from healed rupture, old or recent inflammation, &c., &c.); new growths (such as fibroids, polypi, especially the interstitial and submucous, and cancer); atresia of the os or cervix uteri; and placenta prævia. There are also predisposing causes due to the fœtus, such as abnormal size of the whole or of a single part (*e. g.*, in hydrocephalus), and unnatural positions. The fœtus may be so placed that its head or some other part may exert constant pressure on the same portion of the uterine wall, and may thus weaken it so much that it cannot resist the pressure of parturition.

It may sometimes happen that neither the fœtus nor the placenta may pass into the abdomen, and that the severe symptoms may be referred to some other cause than the true one, until a *post-mortem* examination reveals the latter.

The exciting causes of rupture may be summed up as all traumatic influences acting upon the pregnant uterus, violent pains and efforts, and undue force in operations for delivery.

ART. 122.—*Rupture of the Uterus—Abdominal Section—Subsequent Pregnancy and Safe Delivery.*

By EDWARD WHINERY, M.D., of Fort Madison, Iowa.

(*American Journal of the Medical Sciences*, October, 1866.)

Dr. Whinery relates the following remarkable case:—

"On the 28th of March, 1865, at 8 o'clock A.M., I visited Mrs. S., of Niota, Illinois, a healthy Irishwoman, about thirty-seven years of age, who I was told was taken in labor about 10 o'clock A.M. of the 27th. The first indication she had of approaching labor was the escape of the waters, soon after which regular pains supervened, and an ignorant midwife was summoned to attend her. Labor progressed regularly until about seven o'clock in the evening, when it was expected that the child would be born in a few minutes. She was seized at that time with severe burning, lancinating pains, or stitches as she called them, throughout the abdomen, and the expulsive pains immediately ceased. I found her sitting in a chair, leaning forward at an inclination of about forty degrees, and very unwilling to change this attitude. Her pulse was 110, irregular, or fluttering; the countenance very anxious and pale; the skin cool and clammy. It was with difficulty I could induce her to assume a position convenient to make an examination per vaginam. I, however, caused her to be held at an inclination of about forty-five degrees, and passing the digital finger of the right hand into the vagina, and the left over the abdomen, I found the head of the fœtus resting well down on the perænium, but by pressing firmly against the head with my finger it ascended above the superior strait, and the whole body could be distinctly felt through the walls of the abdomen, she being of spare habit. The motion thus given to the fœtus very much increased the lancinating pains, and she cried out, 'These stitches will kill me.' My diagnosis was rupture of the uterus, and I informed her and her friends that her condition was very precarious. The poor midwife said she did the best she knew. She tried to give her 'Mutterkorn Thee' (ergot), but the stomach would not take it. The night was very dark, and the husband and his friends were afraid to attempt to cross the Mississippi in a row-boat, as it was very high, with much drift-wood floating. She therefore spent the night in applying new corn whisky to the abdomen.

"I allowed the patient to resume the attitude first mentioned, returned home for my instruments and an assistant. Dr. J. C. Blackburn accompanied me.

At 10 o'clock A.M., when we arrived, no change had taken place in the patient. My friend Dr. B. thought, from the visible physical appearances and my representation of the case, that my diagnosis was correct, and we soon agreed upon the propriety of making the abdominal section. Dr. B. administered the chloroform while I was preparing other matters. We placed the patient on her back on a table, and I made the incision on the right of the umbilicus, about six inches in length, through which I removed a large male child (dead of course), and the placenta, both being entirely above the uterus, which was well contracted down into the pelvis. There was very little appearance of hæmorrhage. The rupture was in the fundus from the anterior to the posterior wall. The edges of the wound were now brought together by sutures of silk, taking care to include all the structures except the peritoneum; then finishing the dressing with adhesive straps, a compress, and a wide bandage. The operation and dressing were performed in less than five minutes, and the patient placed in bed, still under the influence of the chloroform. When she recovered from its effects she expressed herself as feeling quite comfortable, and grateful for her delivery from her intense suffering for so many hours.

"We expected peritoneal inflammation to supervene, but in this we were happily disappointed. I visited her on the 29th, and found her quite comfortable; the pulse had gone down to eighty, and every symptom was favorable; the lochia was moderate in quantity; she had been nearly free from pain, and slept well during the night, though she had not taken any of the morphia and quina powders left for her in case irritation and debility should supervene.

"March 30 and 31. Continued without an unfavorable symptom.

"On the third of April she sat up three or four hours in bed. The wound had healed by the first intention.

"On the 5th I took out the sutures, but continued the adhesive straps, the compress, and the bandage; she was then dressed and sitting up.

"On the 8th the lochia ceased, and she went about her ordinary housework.

"On the first of June she menstruated, and again on the first of July. Then she became pregnant, and on the first day of this April she gave birth to a healthy female child. I was in attendance, and found the 'waters' had passed off two days before, but there had been no pain until within three hours of the time of my arrival. The os uteri was well dilated, and the head of the fetus was entering the superior strait. Fearing that the former rupture might have impaired the integrity of the uterus, and that we might again have the accident repeated, I applied the forceps and assisted the expulsive efforts, so that in an hour and a quarter after entering her room I had the satisfaction of finishing her delivery. She and her friends were very much relieved, for she had heard that it was the opinion of some medical men that she could not go through parturition safely after such an accident. There was nothing unusual attending upon gestation. She says this is her tenth pregnancy, and the easiest delivery she ever had; she generally had had difficult deliveries. Two of her children had been still-born in consequence of protracted and difficult labor."

ART. 123. — *Case of Spontaneous Rupture of the Uterus during Labor.*

By Dr. ALEXANDER R. SIMPSON.

(*Glasgow Medical Journal*, June, 1866.)

Dr. Simpson reports a case of spontaneous rupture of the uterus during labor at the full period. The patient was thirty-nine years of age, had been delivered of six healthy children, and in the interval between her sixth and seventh pregnancy she had suffered from extensive ulceration of the os uteri, running into the cervical cavity. The rupture had taken place before Dr. Simpson reached the bedside, and up to this time no suspicion appeared to have been entertained by the nurse in attendance that labor was proceeding otherwise

than favorable. The patient had not experienced any labor pains either unusually violent or protracted, but just prior to the arrival of Dr. Simpson they had assumed a character which led the nurse to believe that the labor would quickly end. The os uteri was found slightly undilated, soft and flabby, and a bloody discharge had set in when the labor pains had begun to occur steadily. On the os being further dilated and three fingers passed into the uterus, a large rent was discovered, through which the fœtus had escaped into the cavity of the uterus. Signs of rapid exhaustion becoming evident in the patient, gastrotomy was performed and the fœtus extracted. The uterus was found collapsed but relaxed, the rent gaping, and through it the placenta was removed. The patient died sixty hours afterwards. An autopsy showed that the intestines were enormously distended with gas, their peritoneal covering being highly injected in some parts of their course, and in the cavity of the abdomen there were a few ounces of the same fluid, of which a small quantity had been withdrawn by the catheter. The uterus was lying in the pelvis, apparently in the very same condition in which it had been felt at the time of the operation; the ragged, irregular, bruised-looking sides of the rent lying gaping apart, so as to expose to view at one point the inner surface of the organ. On removing it from the body, the rent was found to run up precisely along the left side of the uterus, immediately in front of the broad ligament, from the level of the os internum till within half an inch of the Fallopian tube, where it turned somewhat abruptly forward and upward along the anterior wall, and terminated almost at the mesial line, about an inch below the fundus. The laceration in the posterior lip of the os was about an inch and a half in length, involving little more than the mucous layer, and could be distinguished from some old cicatrices by its ecchymosed margin. The whole substance of the uterus in nearly all its extent was uncommonly pale, soft, and friable—the knife going through it, as was remarked by the gentleman who made the dissection, as if it were a piece of soft pork or lard. On submitting some sections of the organ to the microscope, it was found that the tissues had undergone fatty degeneration to a very remarkable degree. Not only in the inner layers, but throughout all its thickness, the fibres were seen full of granular fatty particles, and the connective tissue between the muscular bundles was unusually opaque.

ART. 124.— *Cases of Laceration of the Uterus; with Remarks.*

By THOMAS RADFORD, M.D.

(*Proceedings of the Obstetrical Society: British Medical Journal*, August 11, 1866.)

The author, after briefly alluding to the views of Hunter, Denman, and Douglass, on this most dangerous complication to labor, related minutely the histories of nineteen cases which had fallen under his notice. Of this number, in eleven the ages registered were from twenty-one to forty years, and it was found that the accident occurred more frequently between the ages of thirty-nine and forty. The number of labors which each woman had undergone, varied from the first to the eleventh; and it was shown that laceration of the uterus happened most frequently in women pregnant for the eighth time, and that in those *enceinte* for the first time, the accident took place quite as often as it did in any of the other cases which were registered. The duration of the labor from its commencement to the occurrence of laceration (though in some cases not exceeding three or four hours) was generally from ten to thirty hours. Of the various causes or conditions mentioned as producing laceration, slight contraction at the brim of the pelvis appeared to have been the most frequent. The author considered that when the form of the pelvis was only slightly contracted, the os and cervix uteri partially descended during labor, into or a little through the aperture of the pelvis, so that, as the head of the infant was forced down, the uterine tissues became fixed between this body and the pelvic bones.

The fixity of this structure actually formed a *point d'appui* from which the uterine fibres during contraction forcibly pulled; and the great probability was that sooner or later the tissue either directly tore, or, being first contused and softened, yielded. As regarded the situation of the laceration, the cervix uteri was the part most frequently affected, and sometimes with it the body of the organ was also implicated. In eleven cases the laceration was longitudinal, in three transverse, in three oblique, and in one circular. Of the nineteen cases, three recoveries took place, or nearly sixteen or seventeen per cent. Dr. Radford, in his concluding remarks, observed that when we contemplated the frequent fatality of laceration of the womb, we were led to inquire whether there were no symptoms which showed themselves as universal precursors of this dreadful catastrophe; and if there were, were we possessed of the means of prevention. In all the cases he now brought before the Society, there could not be found any with premonitory symptoms which of themselves would warrant any operative measures being taken, in order to avert the impending danger. Nevertheless, he thought we should carefully consider all the contingent circumstances of protracted labors, and especially of those which were prolonged by mechanical impediments; and whether they were produced by relative disproportion of the capacity of the pelvis to the size of the foetal head; if so, we should adopt measures of timely delivery.

ART. 125. — *Retroversion of the Pregnant Uterus.*

By Dr. LORIMER (Haddington).

(*Edinburgh Medical Journal*, July, 1866.)

Dr. Lorimer relates a case of retroversion of the pregnant uterus ending fatally. The patient was about three months gone in pregnancy, and the first indication of disturbance was difficulty of micturition coming on in the night, after she had gone to bed apparently in good health. There was much abdominal tenderness and distention, also considerable exhaustion and emaciation when first seen. From the position of the womb much difficulty was experienced in passing a catheter into and fully relieving the bladder. Abortion was induced by the use of the uterine sound, followed by the administration of ergot, but the general and local symptoms were not alleviated. Every attempt to replace the uterus both before and after abortion failed, and eventually the patient died. On an examination of the body the uterus was found completely retroverted, and a fibrous tumor, the size of a small orange, was lodged in the posterior wall.

ART. 126. — *Case of Inversion of the Uterus.*

By Dr. JAMES SIDNEY.

(*Edinburgh Medical Journal*, September, 1866.)

On the 20th of May, Dr. Sidney was sent for to see Mrs. G., who was five months advanced in pregnancy, and found her complaining of pelvic pain. On examination, the parts were all very tender, and the os uteri could scarcely be reached on account of extreme tightness. The pain continued till the 27th, when suddenly, without any faintness, there was a feeling of extreme distention and fulness, the abdominal tumor reaching above the umbilicus in the evening. Uterine pains came on, when a large clot was expelled, and within the neck, the placenta was felt firmly adhering; no more hæmorrhage, however, occurred. On the 28th, the uterine pains again recurred, and the fœtus and placenta were expelled very much blanched, except the portion which had evidently adhered to the neck, and lower part of the uterus. On examination, a

large tumor was felt, which proved to be an inverted uterus caused by a fibrous tumor forcing its way through the os. Two fingers of the right hand were passed upwards on the rough surface of what appeared to be the fundus, at the same time pulling the tumor up with the other hand until an os appeared to have been formed, and the uterus assumed a natural state. Since then she has done well.

ART. 127.—*Case of Inversion of Uterus after Delivery.*

By Dr. DENHAM.

(*Dublin Quarterly Journal of Medical Science*, August, 1866.)

Out of a hundred thousand deliveries that have taken place in the Dublin Lying-in Hospital since its foundation, only a single instance of acute inversion of the uterus is recorded. This solitary case occurred during the mastership of Dr. Shekleton, and is given in the report of the hospital, published by Drs. Johnston and Sinclair.

The subject was nineteen years of age, thin and delicate. She was delivered of her first child after an easy labor of six hours. Some slight pressure having been used by the attendant, the uterus was found suddenly to recede from the grasp, and was immediately expelled from the vagina an inverted mass, with the placenta still attached to it. The patient became pallid, almost pulseless, and exceedingly anxious; complained of considerable pain and a sense of sinking.

The placenta was easily separated without hæmorrhage, and the uterus returned with but little difficulty in about seven minutes. No bad symptoms followed, and she was discharged in a short time, quite well.

After thus illustrating the rarity of the accident from the statistics of the Dublin Lying-in Hospital, Dr. Denham relates the following case which came under his own observation:—

Jane Savage, aged twenty-three, admitted into chronic ward 12th January, states that she was delivered of her first child five weeks before admission. The membranes ruptured, and the waters kept dribbling away for two days before labor set in; on the third day there was a red discharge, and labor pains came on that evening. She was weak and faint during the night, and was delivered at 7 o'clock the following morning, with only three or four expulsive pains. The placenta was forcibly extracted by the midwife in about ten minutes after the birth of the child, both by traction on the cord and pressure on the fundus of the uterus. Some difficulty or delay seems to have been experienced in its removal, for the patient described the nurse as having twisted something like a cord round the wrist of one of her hands, with which she made considerable traction, while at the same time she strongly pressed on the belly with the other. During this time she suffered a great deal of pain, but suddenly got relief by the expulsion of a large tumor from the passage, which led her to exclaim, "Oh, Mother of God! am I going to have another!" The placenta, which was partially detached, was now entirely separated, and the uterus thrust into the vagina. The poor patient remained weak and exhausted all the day, passing from one attack of syncope to another, until four o'clock, when she was seen by the dispensary doctor, who, unfortunately, only felt the pulse and looked at the patient, but made no examination. She remained in bed for eleven days, and then got up a little every day until her admission; the doctor saw her twice, but never made a vaginal examination; in fact, he never diagnosed the nature of the case. During all this time she had a continual shedding, especially at night.

She came into hospital in a most pitiable condition—pale, weak, and exhausted, from the combined loss of blood, appetite, and rest. In making an examination it was thought that a simple case of polypus had to be dealt with; but on passing the finger round the neck of the tumor the os uteri could not be discovered, while at the same time the tumor wanted the smooth polished sur-

face generally met with in such cases; conclusion, therefore, was arrived at that it must be a case of recent inversion of the uterus. A generous diet, with a liberal supply of wine, was ordered. Citrate of iron and quinine, with an anodyne at bed-time, was prescribed, with perfect rest on the horizontal position. The poor woman greatly improved under this treatment, so an attempt at reduction was made on the fourth day after her admission. Having been brought fully under the influence of chloroform, she was placed on her back, with the thighs flexed on the pelvis, and the legs on the thighs. The hand was then slowly introduced into the vagina, and the fundus and body of the inverted uterus firmly grasped with the fingers and thumb. Steady gentle pressure in this way was brought to bear on the entire tumor for several minutes before any attempt was made at reduction. The tumor gradually diminished, partly from the pressure and partly from the loss of blood, which was very considerable. Pressing steadily upwards, the uterus was now felt gradually to yield, and in a short time the fundus alone remained unreduced; no amount of force, however, compatible with the safety of the organ could enable us to complete the operation, and as the patient was faint from the loss of blood, no further attempt at reduction was made at that time. The vagina was now syringed out with cold water, the patient was replaced in bed, and a full anodyne administered. On the following day she had a rapid pulse and complained of pain and tenderness over the uterus. Opium, with small doses of mercury, was freely administered, and the linseed poultices were kept over the abdomen constantly.

The symptoms gradually subsided; and on making a vaginal examination on the third morning after the operation, it was discovered that the fundus had spontaneously returned either by its own elasticity or the contraction of its muscular fibres. For many days there was a very profuse purulent discharge from the uterus, but the patient steadily improved in appearance and health, and was able to get up for a few hours every day at the end of a fortnight. On examining with the speculum about a week after the reduction, the os uteri was found ragged and inflamed, but the sound passed up readily into the cavity of the uterus without causing much pain or uneasiness. She was discharged from hospital in perfect health, having menstruated regularly a few days before leaving.

ART. 128. — *On Morbid Conditions and Injuries of the Spleen in the Pregnant and Parturient States.*

By Sir JAMES SIMPSON, Bart.

(*Edinburgh Medical Journal*, September, 1866.)

In a paper read before the Obstetrical Society of Edinburgh, Sir J. Y. Simpson referred to three cases of fatal rupture of the spleen, which had occurred respectively in the pregnant, parturient, and puerperal states. He pointed out the circumstance that, during pregnancy, there is often, if not generally, an increase of the white particles of the blood, or, in other words, a kind of normal or physiological leucocythemia. As in states of morbid leucocythemia, the spleen was often enlarged; so was it also occasionally in pregnancy. Perhaps it would be found in practice much more common than the silence of authors on the subject might lead medical men to suppose. It sometimes recurred in successive pregnancies. In one patient of his, the spleen became enlarged to a very marked degree in a series of successive pregnancies, and this splenic enlargement disappeared always after delivery. Her youngest child is now about ten years old, and during that time there has been no recurrence of the splenic hypertrophy in the mother. A certain amount of softening very frequently accompanies the hypertrophy of the spleen, and predisposes to the laceration of the organ under strong exertion and muscular effort, blows, &c. The first case of rupture of the spleen in a child-bearing mother which he saw was a patient of Dr. Husband's. She began to show symptoms of fatal sinking

shortly after premature labor set in, about the sixth or seventh month. On opening the body after death, the enlarged spleen was found lacerated, with effusion of blood into the peritoneal cavity. Shortly afterwards a patient of Dr. Wilson's who had been delivered a week or two before, after making some unusual muscular exertion, complained of abdominal pain and sinking, and died. Rupture of the spleen and effusion of blood were found on dissection. The late Dr. Cunningham, of Currie, delivered a patient in Edinburgh, using the forceps. He left very shortly afterwards to catch the railway train. The patient sank and died within an hour or two. An inspection of the body was ordered by the law authorities, when rupture of the spleen, and consequent effusion of blood, were found to be the immediate cause of death.

ART. 129. — *Rupture of a Varix in the Vagina.*

By F. W. HELFEB.

(*Schmidt's Jahrbücher*, 1866.)

The unusual character of this case, which was reported by the author to the Obstetrical Society of Leipzig, gives it an especial interest.

The patient was a multipara, thirty-five years old, who during her last pregnancy suffered from an unusually extensive varix of the left lower extremity. Her delivery was natural; and her progress afterwards until the twenty-first day, when a gush of blood took place from the vagina, and was traced to a fissure in the upper part of its posterior wall. The bleeding was checked by a tampon and astringent, but returned repeatedly, and caused the death of the patient on the twenty-sixth day. At the autopsy, two rents were found on the posterior wall of the vagina, leading into a burst varix. One of these rents, half an inch long, and two inches and a half from the outlet, was directed towards the latter; the other, from an inch to an inch and a half in length, and situated rather higher, extended under the pelvic fascia, so that the index-finger could be passed into a cavity, filled with extravasated blood.

ART. 130. — *On the Hygiene of Lying-in Hospitals.*

(*Journal of Practical Medicine and Surgery*, June, 1866.)

A debate on this subject occurred in the course of a discussion in the Chirurgical Society of Paris, in which Messrs. Velpeau, Le Fort, Tarnier, Guyon, Blot, Boinet, Trelat, and Chassaignac took part. The Society has summed up the results of the discussion in the following manner:—

1. It is now fully demonstrated by statistical returns that puerperal affections are far more frequent, and the mortality much more considerable, in lying-in hospitals than elsewhere.

The invariable reproduction of the same facts in every institution and in all countries, shows that they are referable to one influence, that of the hospital.

It is therefore highly desirable in all parts of Europe to extend as much as possible the gratuitous practice of midwifery at the homes of the poor, and gradually to suppress lying-in institutions.

2. The increased mortality, which sometimes reaches a formidable degree of intensity, and is habitually ascribed to the prevalence of epidemic disease, is almost exclusively referable to two causes, viz., the deleterious atmosphere of hospital wards, and perhaps the contagious character of puerperal affections.

The sad effects of hospital influence explain how it happens that in the best constructed, most healthily situated, and most thoroughly ventilated establishments, the mortality is often considerable, and sometimes excessive.

3. In addition to the general rule of hygiene applicable to all nosocomial institutions, and propounded by the Imperial Society of Surgery, the prophylaxis of puerperal maladies should be directed especially against infection and contagion, by disinfection of beds, linen, furniture, separation of the sick, avoidance of overcrowding, &c. /

ART. 131.—*Mixed-Anæsthetic Inhaler for Obstetric Practice.*

By Mr. ROBERT ELLIS, Obstetric Surgeon to the Chelsea, Brompton, and Belgrave Dispensary.

(*The Lancet*, June 30, 1866.)

Mr. Ellis describes a new and simple mixed-anæsthetic inhaler, with especial reference to the lying-in room.



The instrument is represented in the cut. It consists (the face-piece, &c., being all as usual) of two parts—an upper, which holds the chloroform or other anæsthetics, and a lower for the alcohol and general evaporation of the fluids. The upper part is an entirely new little apparatus which Mr. Ellis has designed and perfected for dropping chloroform in an equal ratio per minute; this he calls the “chloroform-dropper.” It consists of a glass bottle of a peculiar construction (*a*), perforated at both ends. Up its centre runs a double metallic tube (*d*), the inner one of which contains a few strands of wool, and the outer serves as a cap to prevent spilling and irregular action of the apparatus. This is held in its place by a cork fitted into the lower end of the bottle. The upper end has a flat stopper, removable to allow of pouring in fresh supplies of fluids. Now, when a definite quantity of chloroform is poured into this bottle, the wick immediately causes it to rise up the tube, and descending within it, the fluid appears below in regular drops. The rate at which the fluid comes over is easily learnt by calculation, and there is an engraved scale (*c*) on the side of the bottle which accurately informs the operator how much fluid per minute is escaping from the bottle, and the consequent percentage of chloroform vapor which his patient is inhaling. Nothing more is necessary in order to give chloroform at a rate of from one to three per cent. than simply to

pour the fluid, at intervals of five or ten minutes, into this little reservoir, up to the indicated mark for the percentage requisite. The beautiful regularity with which this most simple instrument performs its required office must be seen, Mr. Ellis states, to be fully appreciated. At its highest power it can only give off three per cent. of chloroform. Absolute security, he avers, is thus obtained, while — a much lower percentage being, in his opinion, quite sufficient — this can be perfectly secured by keeping the fluid at a certain point by occasional replenishment. Its tendencies, also, are all in the direction of safety, for its rate diminishes, with great equability, from three per cent., until, if left unsupplied, it finishes with about a half per cent. of the chloroform. Thus the patient, once anæsthetized, may be kept in that state with the greatest safety, since at every few minutes she derives a smaller and a smaller quantity of fluid from the apparatus. The lower part consists of a simple metal cylinder (b), the interior of which is occupied by my arrangement of leaf-like processes for the evaporation of alcohol. Upon this fimbriated structure the chloroform drops, and passes with the alcohol and ether vapor into the respirations of the breather. To this part of the apparatus is attached the elastic tube and face-piece. These have been well made by Messrs. Savigny, the makers of my other apparatus.

In actual practice the instrument is thus used. A certain portion of pure alcohol is poured upon the evaporating surface in the cylinder; this lasts for about ten minutes. The chloroform-dropper is supplied up to the required mark on the scale with the fluid, and immediately delivers its contents drop by drop over the evaporator, on to which a few minims of ether are occasionally poured; or ether and chloroform in equal parts may be poured into the dropper, and coming over in single drops are dissipated into vapor with wonderful regularity. But the alcohol cannot be thus mixed; it is always to be poured on to its own proper surface.

The instrument is thus entirely self-acting, and to a great degree self-supplying. It is incapable of derangement by agitation or otherwise; it affords a perfect security to the patient, who cannot draw from it more than a known (and visible) percentage of chloroform; and it is almost as simple as the commonest kind of inhaler.

ART. 132. — *On Prolapse of the Funis as an Indication of Deformity of the Pelvis.*

(*Journal of Practical Medicine and Surgery*, May, 1866.)

The following three cases, which occurred in the Lying-in-Hospital, Paris, are cited in illustration of a presumed connection between deformity of the pelvis and prolapse of the funis.

The first patient was delivered seven years before with the forceps, and gave birth to a living child. On the present occasion, at the conclusion of a second pregnancy, she was conveyed to hospital on account of presentation of the cord. One of the midwives of the hospital succeeded in carrying up the cord beyond the head, and the heart of the foetus continued after the operation to throb feebly, but distinctly. The antero-posterior diameter of the pelvis was three inches and a quarter, being about fifteen lines below the average. Despite these unpromising circumstances, the forceps was applied, and both mother and child are doing well.

In another case of prolapsus, the diameter was three inches and three quarters, thus offering dimensions somewhat more normal, but still indicative of marked constriction. The foetus having ceased to live, the perforator was resorted to.

In the third patient, precidence of the cord coincided with presentation of the hand, the conjugate diameter barely exceeding three inches. The child was still-born, and was extricated with the forceps.

ART. 133. — *On the Treatment of Tedious Labor in the Second Stage.*

By Dr. J. THORBURN, (Manchester).

(*The Medical Times and Gazette*, September 1, 1866.)

In a paper read before the British Medical Association, the author first referred to the strong denunciations of "meddlesome midwifery" contained in all modern British text-books. These, the natural reaction from an opposite state of things, had in many points been carried too far, and had led to a discrepancy between the practice and preaching of eminent accoucheurs. For the sake of testing this, he discussed the appropriate treatment of a case where the presentation is natural, the os well dilated, the head begun its descent, there is no manifest obstacle and the parts seem apt for delivery, the uterine pains are of average strength and frequency, and there is no constitutional disturbance, but matters have been in *statu quo* for a couple of hours or thereabouts, and there is a strong probability of lingering labor, though it may ultimately terminate naturally. Such cases occurring frequently, there are three courses open — to trust entirely to nature, to give ergot, or to use the forceps. The first course is authoritatively laid down by all recent British writers as the most natural, and therefore the safest. To set against this view, there is the certainty of much longer suffering, the possibility of exhaustion, which may be suddenly developed, increased risk of metritis from over-exertion, of sloughing of the soft parts, of hæmorrhage from inertia, of rupture of the uterus, and the possibility of having to fall back on one of the other plans under less favorable conditions. None of these events may be very likely, but they are all possible; and any procedure which will diminish one or all of these dangers without substituting equal risks, should be adopted. Ergot does not, in the author's opinion, fulfil this condition; for, although it may succeed in speedily terminating the labor, it may also fail, and involves a greater risk to the child from spasmodic or unintermitting pressure, or from its poisonous action (?), and it greatly increases the danger of rupture of the uterus and retained placenta. By forceps, speedy delivery is certain, undue uterine fatigue is obviated, and all chance of rupture from straining is abolished. The author endeavored to show that, in proper hands, there is no corresponding disadvantage; that sloughing of the soft parts and torn perinæum, so far from being more, are less probable; that there is no risk in thus carefully and slowly emptying the uterus; that the pain of labor diminished; and that the risks to the child are lessened in such a case. He protested against the invariable rule of arguing the question on the ground that the operator may be unskilful; such an argument never being used in discussing the general advisability of any other surgical proceeding. He concluded that, contrary to the opinion of Murphy and others, there are cases in which it is advisable to interfere merely for the purpose of abbreviating labor, and that the practitioner is not liable, in such a case, for any consequences that ensue, except such as are clearly traceable to his own neglect or maladroitness; and agrees with the American accoucheur Hodge in emphatically condemning the "practice which permits the agonies of labor to be unnecessarily prolonged, or the safety of the mother or child to be jeopardized, from the timidity or ignorance of the accoucheur respecting an agent whose employment necessarily involves no danger."

ART. 134. — *A Case of Embolia of the Pulmonary Artery in a Puerperal Woman.*

By Dr. F. RITTER.

(*Monatsschr. f. Geburtshk.*, February, 1866; *British and Foreign Medico-Chirurgical Review*, July, 1866.)

In this case the patient was pluriparous, æt. twenty-six. The first day of childbed went off quite regularly. Then the lochia became offensive, and slight pain was felt on pressure. Temperature, 38·0° C. These symptoms disappeared eight days afterwards. She suddenly fell back in deep syncope. Consciousness did not altogether leave her. When seen, the face was pale: she seemed dying. Respiration not much accelerated; pulse very small and frequent. She complained of oppression in the chest. Next day these symptoms persisted; the temperature was 36·8° C.; respirations were catching in character, 36; cyanotic lips and tongue. Subsequently, pulse and respirations increased in frequency; temperature fell. She died the third day. *Autopsy.* — In the right horn of the uterus was an abscess; inside uterus no disease. In ovarian veins, small yellow fibrin-clots, apparently formed before death. In the right chief branch of the pulmonary artery was a pale-red delicate thrombus, plugging the vessel.

ART. 135. — *Case of Hypertrophy of the Labium.*

By Dr. MEADOWS.

(*Proceedings of the Obstetrical Society: British Medical Journal*, September 8, 1866.)

The patient, twenty-seven years of age, about six weeks after her second confinement, three years since, experienced sudden pain and enlargement of the labia. Treatment was adopted, and in 1864 she was admitted into St. Bartholomew's Hospital, where drainage-tubes were passed through the mons veneris and left labium; but she left the hospital unrelieved. When seen by Dr. Meadows, the left labium was the size of the fist, and the whole mons was much thickened, indurated, and brawny-looking. On July 20 the entire labium was removed, together with an elliptical portion of the mons. The operation was successful, and left the parts on that side of their normal size.

ART. 136. — *Menstruation in Pregnancy.*

By GRAILY HEWITT, M.D., Professor of Midwifery, University College.

(*Proceedings of Obstetrical Society: British Medical Journal*, August 25, 1866.)

The following case is related by Dr. Hewitt as illustrative of the occurrence of menstruation in pregnancy, and as a contribution to the knowledge of this subject: — A. B., aged upwards of thirty, had several pregnancies. The last child was born June 23d, 1865; suckled one month. The catamenia appeared from September 15th to 25th; in October they were absent; on November 7th she had a discharge of blood, with slight watery discharge, alternating for a week. December 7th, she was "poorly," as usual, for six days. January 8th, 1866, she felt quickening. March 1st, pregnancy was distinctly diagnosticated. Delivery of a female child, apparently about a fortnight short of full time, took place on May 17th. The author considered it probable in this case that there was a twin conception, one ovum perishing and giving rise to the flooding observed in November. It might be that some other cases of apparent menstruation in pregnancy have a similar source; but in regard to the majority of the

cases of menstruation in pregnancy, and excluding cases of irregular hæmorrhage, he believed the source of the blood to be the decidua vera, as in ordinary menstruations, the unusual condition in such cases being the absence of adhesion of the two membranes, the decidua vera and decidua reflexa. The decidual chamber may, in other words, persist to a later period than usual, in which case there is no difficulty in accounting for the exudation of blood from within it, and its appearance externally.

ART. 137. — *On the Age of Nubility.*

By Dr. J. M. DUNCAN.

(*Edinburgh Medical Journal*, September, 1866.)

Dr. Duncan considers the age of about from twenty to twenty-five the nubile age of women. The numerous facts and arguments he has adduced, appear to him to bear out distinctly this conclusion. Below twenty years of age, woman is immature, she runs considerable risk of proving sterile, and if she does bear a child, she runs a comparatively high risk of dying in childbed; besides, her early marriage brings many other disadvantages. The woman above twenty-five years of age is mature; but to counterbalance this, she encounters some greater risks than the very young wife's, though of a similar nature.

(B) CONCERNING THE DISEASES OF WOMEN AND CHILDREN.

ART. 138. — *Case of Vicarious Menstruation.*

By Dr. MASON, Ayr.

(*Edinburgh Medical Journal*, September, 1866.)

Dr. Mason places on record the following singular case: —

"About the middle of March of the present year, I was requested by my friend Mr. Haldan to see a patient whom he had been attending for two or three weeks, but from illness was unable at the time to continue his visits. The patient is a young lady, fifteen years of age, residing at a boarding-school in this town; her native place being Liverpool. On calling, I was furnished by the lady of the house with some of the previous history of the case, with which I think it would be better to begin.

"When eight years of age, Miss — first began to menstruate, and continued to do so regularly until eleven; menstruation then ceased, and did not reappear until she was thirteen, since when up to the middle of February, 1865, it continued regularly. At that time Mr. Haldan was requested to see her, and found what appeared to be a large abrasion of the cuticle in the middle of the right cheek, suppurating in the centre, and inclining to bleed towards the circumference. This sore was exceedingly obstinate, refusing to yield to the local and constitutional treatment resorted to. As far as I can gather, dilute nitrate of mercury ointment, caustic, &c., were applied, and cod-liver oil and iron exhibited internally.

"During the summer, Miss — went to Liverpool, her face still unhealed, and, I believe, menstruation very irregular. She was then attended by a medical gentleman; but her face continued so bad, that she did not return to Ayr until the winter. Her medical attendant in Liverpool used locally a solution of sulphate of copper, and covered the part with goldbeaters' skin. Of his constitutional treatment and other local applications, I am not prepared to speak with accuracy, as the young lady could give me no clear account of what had been used. From the time her face healed (which I think was in October) until I saw her in the following March, she menstruated every month, the discharge lasting six days each time, and being profuse.

"When I saw her she had a large *patch* on her right cheek close under the lower eyelid, and extending from the outer border of the malar bone to the side of the nose, and about three-fourths of an inch in breadth. On examining it, it appeared as though the cuticle had *melted away*, and numerous little specks of blood were seen on the surface, which was quite wet with a thin serous discharge. An hour before I came, she exclaimed, 'Oh, I feel another place on my face again,' and *immediately* the above appearance was observed. The occurrence of these patches is accompanied by a severe burning pain in the part, lasting for two or three hours. Until very lately, she had not the slightest intimation beforehand that another place was about to break out; the suddenness with which they appeared being almost incredible. Latterly, I observed her lean her head upon her hands, and wear an almost anxious look; and on questioning her, she said she felt rather giddy, and in a quarter of an hour or less another place would break out. It is remarkable that these outbreaks *generally* took place about the same time each day—eleven A.M. Sometimes they occurred in the afternoon, but *by far* the majority at the time specified. As each day almost some new patch appeared, I was very anxious to be present at the time they occurred, and learning the regularity with which they appeared at eleven in the forenoon, timed my visits accordingly. The next day, as I was dressing my patient's face, she exclaimed, 'Oh, I feel a place on my arm.' I at once turned up her sleeve, and there was a large oval patch, fully two inches in length and one in breadth, on her left forearm, presenting the usual appearances. Here I should mention that these patches assume two different aspects at the outset; sometimes the one and sometimes the other obtaining. The one at the outset appears like a dew of blood, the other has a greater tendency to a serous discharge ending in suppuration. Those that bleed most heal the soonest. But before the places heal (which generally takes place in five or six days) both suppuration and hæmorrhage often occur in the same place.

"The hæmorrhage, I should observe, does not consist merely of the dew of blood referred to—that is only at the outset—but it is actual bleeding as from a cut, the blood sometimes streaming down the face or other part attacked. The worst place she ever had was on the chin; it did not heal for nearly four weeks, and suppurated freely, the bed-clothes in the morning being often soiled by the discharge, but it also at times bled considerable. As soon as one place was healed it broke out in another, or in the same place over again, some of them having occurred in the same place four or five times. It were tedious and useless to describe all the places that were affected, as all were so similar; suffice it to say, that her face was covered, her chest twice attacked, and both arms and legs.

"For some time I was much at a loss to satisfy myself as to the true nature of the case, but finally came to the conclusion that it was vicarious menstruation. During the course of her attack, I sent Miss — into Glasgow to see Dr. M'Call Anderson, and he formed the same opinion of the case as myself, and kindly suggested to me, in a letter subsequently, some alterations in the treatment, to which I shall presently allude.

"While still suffering from the complaint, Miss — had a severe attack of whooping-cough, which seemed greatly to aggravate the patches on her face, causing them to bleed freely. This, I have no doubt, was caused by the mechanical exertion during the paroxysms of coughing, sending the blood to the face. At this time also she had frequent and copious epistaxis, generally after a fit of coughing, or after the retching thereby induced, and this *somewhat* relieved the parts attacked.

"A few words now as to the treatment. When I saw Miss — she was then using the solution of sulphate of copper to the original spot in the centre of the right cheek, but had not yet applied anything to the new place which had just appeared an hour before my visit. I sent for some oxide of zinc powder, and dusted it well over the part affected, and then covered it with goldbeaters' skin. To the original sore I continued the solution, and so could compare the effects of the two applications. The solution caused a good deal of smarting, which continued for some time after its application; but no incon-

venience was experienced after the use of the powder. I tried the solution to some new parts, but it only seemed to aggravate them. The original sore was, however, healed by it, but this part from the first differed from all the subsequent ones, as it penetrated much deeper, and suppurated very freely for a long time; it is the only place where any scar is left, and it is trifling. Each morning I removed the goldbeaters' skin that I had applied the previous day, and, after bathing the part with tepid water, carefully removed the scabs that had formed, so as to prevent the occurrence of cicatrices. The places that appeared on the chest and arms I treated somewhat differently. On their appearance I bathed them with cold water, and then applied glycerine, and dusted the oxide of zinc powder over it, so as to form a crust; the arms were then loosely bandaged. This plan succeeded admirably on the arms and chest, but did not answer well on the face. Very few scabs formed on the patches on the arms, and they did not bleed so much as those on the face, and healed much more rapidly. The parts affected on the legs bled freely.

"Internally, she got cod-liver oil and the muriated tincture of iron, with liquor arsenicalis. Aloetic purgations were also exhibited, so as to keep the bowels freely open, especially at the time that any appearance of menstruation occurred. A hot mustard hip-bath and leeches to the inside of the thighs were employed at the suggestion of Dr. McCall Anderson, and I think with much benefit.

"In conclusion, let me very briefly recapitulate some of the most striking points in this case.

"In the *first* place, we notice the very peculiar appearance presented by these spots; the thin serous discharge with numerous specks of blood seen in some of them; and the copious dew of blood, followed by actual hæmorrhage in others.

"*Secondly*. The instantaneousness of their appearance; the skin appearing perfectly whole and healthy one second, and melted away and bleeding the next,—it being only lately that any giddiness betokened their appearance.

"*Thirdly*. The almost uniform regularity with which they occurred, about eleven every forenoon.

"*Fourthly*. The pertinacity with which patch after patch succeeded one another, and the obstinacy with which they so long refused to yield to the influence of remedies.

"Miss — has now been quite free from any spots for about six weeks, and no traces of them are to be seen, except when she gets heated or excited, and then the parts that have been attacked look very red. The original spot has left a small depression, but little noticed. And now comes a singular fact, and that is, that although healed and apparently well, her menstruation is not yet properly established.

"During the period that I was attending her, she menstruated *one day every week* for four weeks, there being, however, very little appearance. Then a fortnight would intervene without any menstruation, and then it would begin again as before. And now that she seems perfectly well, I learn that the menstruation is still being carried on in the same manner, the discharge, however, each day of its occurrence being more copious. She is still continuing the cod-liver oil, and has resumed the iron and arsenic, which had been omitted for a short time. On calling two days ago, I was told that Miss — had felt dizzy, and that some of the old spots on her face were looking red and angry; I accordingly ordered leeches to the insides of the thighs, and the threatened attack seems to have passed off. But until regular menstruation be established, I shall not be surprised at a recurrence of the attack."

ART. 139.— *On Medicated Pessaries.*

By Dr. KIDD, Assistant Physician, Coombe Hospital, Dublin.

(Dublin Quarterly Journal of the Medical Sciences, November, 1866.)

At a meeting of the Dublin Obstetrical Society, Dr. Kidd exhibited a new form of medicated pessary, made for him by Mr. Pakenham, of Henry street, Dublin. Dr. Kidd reminded the members that, on the 13th January last, he exhibited some pessaries made in Edinburgh for Sir James Simpson's use, and some of the same description made by Mr. Pakenham. These were composed of cocoa-nut butter, a substance sufficiently firm at low temperatures to allow of the pessary being introduced into the vagina by the patient herself, but which melted very rapidly at the temperature of her body; but he then said that in practice he had found these pessaries were often objected to by patients, because, as the cocoa-nut butter melted it escaped from the vagina, and soiled the clothes in a very offensive manner, and that, to obviate this difficulty, he had lately got the pessaries made as small as suppositories, so that, instead of containing 120 or 150 grains of cocoa-nut butter, they contained only five or ten. But a pessary of this size would not contain a sufficient dose of many of the medicinal agents that may be applied to the uterus with advantage, and it is difficult to properly introduce such small pessaries into the vagina; so that it becomes necessary for the medical man to apply them himself, by means of the speculum. This latter objection, Dr. Kidd said, applied also to another means of applying medicinal substances directly to the uterus, viz., that suggested by Dr. Tilt, by wrapping them up in cotton, and introducing it into the vagina, as this can only be done rightly by means of the speculum.

The requisites, Dr. Kidd said, for a good form of medicated pessary are:—

1st. That it can be introduced by the patient herself.

2d. That it will bring the medicinal agent into contact with the mucous membrane of the vagina and uterus, and retain it there sufficiently long to allow of absorption, or of such local action as may be required.

3d. That it will not be offensive to the patient, soil her clothes, or prevent the medicine having due effect, by allowing it to escape from the vagina.

The pessary now exhibited by Dr. Kidd complied with all these requisites, and had none of the disadvantages of the other forms, nor did it require the use of an instrument for its introduction into the vagina, like that recently suggested by Professor Raciborski. It was composed of cotton, coated with an exceedingly thin layer of cocoa-nut butter, so thin and so small in quantity as to be unobjectionable. In manufacturing this pessary, Mr. Pakenham rolls a small portion of cotton, to which a thread has been attached, on the end of a glass rod, giving it the form and size of the ordinary conical medicated pessary. He now dips it rapidly into melted cocoa-nut butter, so as to give it a uniform thin coat, to preserve its shape, and give it firmness. As soon as the cocoa-nut butter is cool, the glass rod is withdrawn, and the pessary now resembles an empty cartridge case, which may be charged for use by introducing into it the medicinal agent to be employed, and which may be used either in the state of dry powder, or mixed with glycerine or water. The end of the charged cartridge is now plugged with cotton and cocoa-nut butter, and it is ready for use.

It has now a form and consistence to allow of its easy introduction into the vagina by the patient herself. The layer of cocoa-nut butter soon melts, and mingles with the cotton, serving to bring the drug with which the cartridge is charged into contact with the vaginal mucous membrane, and allow of its action on it. When the pessary is introduced, the thread which has been attached to the cotton is allowed to hang out of the vagina, and serves as an easy means of withdrawing the cotton, when a sufficient time has elapsed for the action of the medicine.

Dr. Kidd stated that he had used these pessaries charged with various substances, such as tannin, alum, iodides and bromides of potassium, iodine dis-

solved in glycerine, acetate of lead, opium, morphia, &c., and had found them most satisfactory; but he had learned that active preparations, such as tannin, which may irritate the mucous membrane, or morphia, should be used in smaller doses than in the old form of pessaries.

ART. 140.—*On the Management of Weak New-born Infants.*

By Professor DEPAUL.

(*Journal of Practical Medicine and Surgery*, October, 1866.)

Professor Depaul remarks that while abundant attention is given in obstetric treatises to the treatment of healthy new-born infants, and those who are seemingly still-born, little space is devoted to the care of the weakly. This want he endeavors in part to supply. He thinks that authors have not laid sufficient stress on certain deceptive appearances, which seem to imply that the infant is out of danger because it takes the breast and seems to suck.

The fact is, however, one of very common occurrence; the infant apparently sucks, but does not increase in weight, and after a time discontinues its fruitless efforts, screams more frequently, and wastes away. In order to discover whether suction is efficiently performed, the child should at the time he appears to be taking the breast with most vigor, be removed from its nurse, and the presence or absence of milk in its mouth be ascertained. The paid nurses at the hospital are required every day to make this experiment. Mr. Depaul also endeavors by all means to rouse from their indolence the wet-nurses to whom puny, delicate infants have been intrusted, when the nursing takes the breast but imperfectly. Under these circumstances, it often happens that the infant has not strength to suck, and the finest nurses are provided in vain. The best nurse in such cases, is not the woman who has the largest supply of milk, but one whose milk flows easily and drops without effort into the child's mouth. If a nurse of this kind cannot be procured, milk of good quality should be obtained and given mixed with thin gruel. Mr. Depaul agrees with Professor Scanzoni, that ass's milk is the best for the purpose, but in most cases the practitioner must be satisfied with cow's milk. Every hour or two, day and night, from one to three teaspoonfuls of diluted milk should be administered. Should this kind of food give rise to colic, Scanzoni recommends the addition of a little fennel or dill water; and as soon as the child has gained in strength, it is proper to procure for it a good wet-nurse, and this should not be too long delayed, lest the habit of receiving nutriment into its mouth without any effort may prevent the infant ever taking to the breast again, a circumstance which occurred in the case of a young prince, at present living in exile; the nurse should then be instructed to draw her own milk with an exhausting glass; but this can seldom be obtained from a mercenary nurse, and scarcely ever succeeds but with mothers who rear their own children.

It should further be remarked, that in primiparæ the nipple is often so large or so hard, that if the child is not very strong its efforts at suction are unavailing. The mother is then in fault, and it is therefore highly expedient to ascertain the condition of the breast in gravid women, in order to form an opinion as to the possibility of their nursing.

It is absolutely necessary, in addition to the measures calculated to restore and increase the strength of the infant, carefully to shield it from the influence of cold and to adopt every precaution to preserve the temperature of the body at the physiological standard. Warmth is for infants, especially for new-born infants, the indispensable condition of the continuance of life. None but the strongest children can bear any loss of temperature. The weak invariably perish if exposed to cold, and Hunter sagaciously noted the fact, and strongly objected to the practice prevalent in his day of bathing very young children in cold water for the alleged purpose of invigorating their constitution. When, therefore, a child is prematurely born, or naturally weak, it should be carefully

enveloped in warm clothing, kept in a comfortable bed, and guarded in every possible manner from adverse atmospherical influences. The thermometer should be daily consulted, and hot water bottles used, if necessary, to maintain the heat of the body at a proper height.

By means of these precautions, and if required by the exhibition of aromatic and stimulating remedies, Mr. Depaul has had the good fortune of restoring, in the course of two or three weeks, children supposed not to be viable, to a normal state of development. Untiring supervision is always indispensable, as any neglect of these all-important points may entail irremediably fatal consequences.

PART IV.—MATERIA MEDICA AND THERAPEUTICS.

ART. 141. — *On the Milk Cure.*

By PHILIP KARELL, M.D., Physician to his Majesty the Emperor of Russia.

(*Edinburgh Medical Journal*, August, 1866.)

After a learned introduction on the therapeutical cures to which milk had been devoted by many ancient and modern physicians, Dr. Karell proceeds to define what he means by the *Milk Cure*.

"If, in giving a general definition of the milk cure," he writes, "we call it a *nutritive cure*, it by no means follows that it should only be administered in diseases dependent upon a perverse nutrition. It might as well be defined as a *sedative cure*, for it is very often useful in those cases where Valsalva would in all probability have employed fasting and phlebotomy. A more exact definition, perhaps, would be, that milk, when methodically administered, is a *regulator of nutrition*. It might perhaps be urged that milk is a well-known remedy, and that every physician uses it in appropriate cases. I admit that all medical men are sufficiently well acquainted with milk as a nutritive agent, and as an antidote; but I speak from experience when I assert, that in general the cure by milk, *scrupulously administered, and in strictly measured doses*, is not sufficiently, and only very rarely, recognized as a sovereign and useful remedy.

"I have frequently," he proceeds, "during the last fifteen years, been called into consultation in cases which were thought hopeless, and in many of which I recommended the milk cure, which had never been resorted to during the whole course of the malady. I had prescribed, even before that time, the employment of milk, but without regulating its administration. It was only by degrees that I arrived at a methodical system of treatment. Experiments made by other physicians have tended to strengthen my convictions. Thus, when accompanying the late Emperor Nicholas in his travels, we arrived one day at Ishougnoff, in the centre of the Steppes, where eight regiments of cuirassiers and some other troops were encamped. An epidemic of intermittent fever was raging at the time. I found many of the wards filled with dropsical patients, the greater number of whom had hypertrophied spleen and liver. To my great satisfaction I saw a bottle of milk at the bedside of each patient, and I learned from the senior physician, Dr. Weks, that he had given up all other modes of treatment in those special cases, having found a sovereign remedy for them in milk. Another of my colleagues, Dr. Behm, having made important observations during five years in the hospital to which I was also attached, wrote to me with regard to the malignant typhoid fever which raged in Poland and Lithuania in 1854, that he had no success in treating that epidemic until he resorted to the milk cure and the occasional use of Hungarian wine.

"My respected friend, Dr. Inozemtseff, of Moscow, resorted, with the help of his assistants, during his long professional career, to the milk cure in nearly 1000 chronic cases. In his work on the *Milk Cure*, published in Moscow in 1857, he speaks of the good results which he obtained from this remedy, and affirms that its efficacy is indisputable. Nevertheless, he orders milk without defining the dose. He points out the difference between a *milk cure* and a *milk diet*, on which latter he places a patient for several years. Inozemtseff refers

the good results which I have obtained to the *moderate* doses in which the milk was given. I believe that a regular mode of administration is the most rational. Milk is more easily digested when taken in small draughts and at stated intervals. If we allow milk to be taken *ad libitum*, the patient will likely soon suffer from indigestion."

Dr. Karell relates two cases illustrative of Dr. Inozemtseff's practice, and then proceeds to a consideration of his own mode of treatment.

"I generally commence," he writes, "the cure by employing milk *alone*, and forbidding all *other kind of nourishment*. I proceed with great caution in prescribing for the patient, three or four times daily, and at *regularly-observed intervals*, half a tumbler or a tumbler, *i. e.*, from two to six ounces, of skimmed milk. Its temperature must be made to suit the patients' taste. In winter they generally like tepid milk, heated by placing the tumbler or cup in a vessel filled with hot water. In summer they generally prefer it of the same temperature as the surrounding atmosphere. They should not gulp it all at once, but take it slowly, and in small quantities, so that the saliva may get well mixed with it. Of course, the milk must be of good quality. That of town-fed cows has generally an acid reaction; that of country-fed cows is better, because its reaction is generally neutral. If the patient digest the milk well, which is proved by the fæces becoming solid, I gradually increase the dose. The first week is the most difficult to get over, unless the patient has strong will and firm faith in the cure. During the second week two ordinary quarts are generally administered each day. If the cure take its regular course, then the milk must be drunk four times daily—at eight in the morning, at noon, at four P. M., and at eight P. M. If the patient desire it, I change the hours, but I always insist on regular intervals being observed; for the patient will think lightly of the cure, if he be not ordered to observe some regularity while subjected to it. No confidence can be inspired, and no cure expected, if the physician says to his patient, 'Drink milk in whatever quantities, and whenever you wish.'

"When obedient to the physician's orders, the patients complain neither of hunger or thirst, although the first doses appear very small to them. If, instead of four cups of skimmed milk, a person afflicted with a severe illness, takes four large tumblerfuls of unskimmed milk, you may be sure he will not digest it, and his confidence in the remedy will be shaken at the very commencement.

"I was consulted six years ago by Mrs. B. She had been suffering for four months from chronic diarrhoea, and from vomiting. The disease was called chronic gastro-enteritis by some. The patient was emaciated, and her liver undergoing fatty degeneration. She had suffered a long time from uterine and intestinal hæmorrhages. In a consultation which I had with two experienced practitioners, I proposed the milk cure as the *refugium unicum* in this case. The two gentlemen replied that they had tried it several times, but that the lady could not digest it. I knew from what they said that the patient had partaken of milk in large doses several times daily, and had beef-tea and other food besides. We resolved to try the methodical administration of milk. I ordered skimmed milk to be given thrice (each dose containing four table-spoonfuls) during the first day, and absolutely nothing else. From that time the vomiting ceased, and after the third day the diarrhoea disappeared. The fæces acquired their normal appearance, which had not been the case for years before. At the end of the second week she could digest, without inconvenience, two bottles of milk a day. Finally, she made a complete recovery, and lived several years.

"But it must not be supposed that such an effect can generally be produced when nothing is administered except small doses of milk. I have placed patients, who were taking milk in minute quantities, also on beef-tea, white bread, and water; but I never observed the same satisfactory results after this mode of treatment. The cure never was complete when allowed anything except milk to be taken for dinner. Sometimes, when the invalid had arrived at taking from ten to twelve glasses per day, I observed a return of his illness. I had then to commence the cure anew, by prescribing milk in small doses. At the beginning of the treatment, the patient's bowels are frequently consti

pated, which I consider of good augury. The fæces become very hard, in consequence of the absorption of the fluid particles of the milk. This may be remedied by warm water injections, or by the use of castor-oil or rhubarb. Persons suffering from flatulence are soon relieved of it by the milk cure. If the constipation be obstinate, I order the addition every morning of a little coffee to the dose of milk, or, towards four o'clock P. M., stewed prunes or a roasted apple. If, on the other hand, diarrhoea and borborygmi be the result of this mode of cure, it proves either that the milk was too rich, or that it has been administered in too large doses. If the diarrhoea does not arise from ulceration of the intestines, it is sure to be cured by strict observance of method in this treatment.

"Feverishness is no contra-indication to its use. If the patient feel very thirsty, I allow him to drink water, or Seltzer-water. If he have a strong desire for solid food, I allow him, at the end of the second or third week, a little stale white bread with salt, or a small piece of salt herring. At four o'clock, i. e. his dinner-hour, the patient may, as in the morning, take a small quantity of stale bread. Once a day, instead of pure milk, I give him some soup made of milk and oatmeal. After continuing this treatment for five or six weeks, it may be modified (according to circumstances), by allowing only milk thrice daily, and once a steak or chop. I have found that raw meat is easiest to digest.

"The strongest opposition to treatment I have generally experienced from the patients themselves, and the cause is easily explained. If a person suffering from some chronic ailment has already been subjected to various modes of treatment without having been cured by any one of them, and if the milk cure be suggested to him, which, in his opinion, can lead to no improvement, he thinks it is the same as the verdict which declares, 'You are lost, and medicine cannot save you!' I have sometimes seen nervous patients grow seriously alarmed, and request time to reflect whether they should subject themselves to the treatment or not. Thus the patients either assert that milk is repulsive to them, or that they are unable to digest it,—this one, because he has always been troubled with his liver; another, because he smokes; while a third is afraid he will die of hunger, or pretends that he has already tried the milk cure, but was unable to continue with it, because of the disagreeable effects it produced. Others ask what purpose the milk cure can serve, when other medicines have done little, if any good. My answer then is, that milk is a food easy of digestion with every person, provided it be given with precaution, that it be of good quality, and administered in definite doses; that it is the first food of man, and that a new-born infant shows no dislike to new milk. To die of hunger, even when taking nothing but milk, is impossible, since there are people who take no other nourishment. In milk are united all the elements necessary for the nutrition of our body, and besides, this substance is easily assimilated. Lastly, I add that long experience has convinced me that milk is an energetic remedy in many diseases, and that in some cases I prefer it to any other remedy. Thus I am rarely unable to persuade the patient to follow out my advice; and in the majority of cases, notably those of dropsy, I have generally had the satisfaction of receiving, in a very short while, the sincere thanks of the patient for the speedy relief he felt."

Dr. Karell relates several successful instances of the treatment, and then discusses the "indications" for and against its adoption.

"In summing up," he writes, "the phenomena always observed among the patients cured or treated by other physicians and myself, I must enumerate: An intractable state of the blood, impoverished to the utmost extent, and general dropsy; disordered innervation, assuming the forms of hysteria, or hypochondriasis; obstinate dyspepsia, neither the result of congestion of the stomach nor of ulceration, nor of cancer of that organ; in fact, catarrhal, rheumatic, and gouty affections, as also nervous maladies not the result of a *local disease*, but of quantitative and qualitative defects in the fluids; or, to speak more clearly, a constitutional disease. If the cause of the disease was apparently situated in the organs of digestion, the more strongly was I tempted to try this cure. I have thus cured, or very much relieved, chronic irritations of the

pharynx and of the œsophagus, ulcers of the stomach, and similar diseases of the digestive tract. These *gastric cases* formed the greater portion of the 200. Among these, satisfactory results were obtained in a very short time. The desponding patient became lively, the gloomy countenance brightened up, the big belly decreased in size, and, as a consequence, many other unpleasant symptoms disappeared; in a word, the patient felt quite a new man.

"And even where the seat of the malady was not always as clear as in the cases above cited; but where the disease of any organ seemed to be connected with some derangement of the digestive tract, I have invariably tried the milk cure. For I thus produce a good result, simply by regulating the diet, and by excluding indigestible articles of food. And I have thus frequently had the satisfaction to see a complete cure effected by such simple means in cases where deep-seated organic disease was suspected. My own experience and that of other physicians has shown that great improvement, and even almost a complete feeling of health, have attended this treatment when employed in cases of organic disease of the heart, of advanced degeneration of the kidneys, &c. Taking into consideration the fact that hypertrophy of the heart and the central congestion, as well as increased bronchial secretion which result therefrom, are frequently occasioned by disorder of the abdominal circulation, I think I have found an exact indication for the milk. I have modified the milk cure according to circumstances in treating plethoric persons.

"The fatty degeneration of the arteries, and the consequent friability being so frequently one of the determining causes of apoplexy, I think we shall find an exact indication in that disease for the use of milk. Neither can I say that constitutional debility was common to all patients whom I placed under the milk cure. On the contrary, I have made persons of a florid complexion undergo the treatment—persons of muscular build and a full pulse, who are generally ordered a temperate regimen, and who, to prevent congestion and apoplexy, take bitter and saline solutions with benefit. For advanced tuberculosis we have no remedy. In cases where this disease is complicated with tubercular ulceration of the intestines, I cannot foretell very good results from the use of milk.

"Fever is no contra-indication to its use. The utmost caution, however, should be used when milk is administered in such cases. At the commencement the doses should not be increased too speedily, for the patient's stomach will not absorb more milk than it can digest.

"To sum up, I have already strongly expressed myself against the practice of extolling the milk cure as a panacea; nevertheless, I feel no hesitation in declaring that the number of cases for which I prescribed the milk cure with a great degree of confidence is very considerable, and that in these cases I could have expected no good results had I resorted to any other mode of cure."

ART. 142.—*On the Antagonism between Opium and Belladonna, and their Preparations.*

(*Schmidt's Jahrbücher*, 1865.)

As early as in the year 1570, Prosper Alpin and Lebel were of opinion that a combination of belladonna with opium diminished the effect of the former. Horstius and Faber, in 1677, and Boucher of Lille, in 1766, proposed to use the two agents as antidotes to one another. In 1810, Lippi discussed this proposal, which then remained unnoticed until 1838, between which time and 1843 it was revived by Carrignan, Graves, and Angelo Poma. Since 1843 the number of recorded cases in favor of an antagonism between the preparations of opium and the alkaloids of the solanaceæ has greatly increased; and, on the other hand, many doubts have lately been expressed upon the question.

Dr. Camus, of St. Quentin (*Gaz. Hebdomadaire*, 1865), doubted the value of the cases recorded in proof of the supposed antagonism, on the ground that, in opium

poisoning, atropine was scarcely ever given alone, but almost always in combination with a number of other substances; so that it was difficult to decide how much of the result might be due to the alkaloid and how much to other agencies. In order to decide the question, he instituted a series of experiments upon rabbits and sparrows, to some of which he administered by injection extract of opium, morphia, codeia, papaverin, or thebain alone; while to others he administered also, some minutes later, a determinate dose of atropine, either at once, or in successive portions, with intervals of from fifteen to twenty minutes between them. In these experiments, therefore, he had in view only the action of atropine against opium; and he reserved the action of opium against the solanaceæ as a subject for future experiment. In selecting animals for comparative experiments, Camus was especially careful that they should be of like size, age, and weight. The first series of experiments served to determine the smallest fatal dose of the several preparations of opium, and of atropine;¹ and each final experiment was, as a rule, preceded by one with the opiate alone, in order to obtain a standard of comparison for the results of the trials in which the administration of opium was followed by that of atropine. Dr. Camus generally administered in the later experiments the smallest fatal dose as found in the earlier ones; but it should be observed that the selected quantity of the opiate was always given at once, and the atropine sometimes at once, sometimes in successive portions.

In the first series of experiments (three with one gramme each of morphia and of sulphate of atropia), Dr. Camus could not discover any diminution of the action of the morphia; and, indeed, the two animals to which the atropia was given both died sooner than the one that was poisoned by morphia alone. The same result was obtained in two other series of trials, each of three experiments with one gramme of extract of opium, and fifty and thirty-five centigrammes of atropine. In the four following series (each of three experiments, one with the above-mentioned dose of thebain, narcotine, papaverin, or codeia alone; and the other two with the addition of atropine to twenty-five centigrammes) three of the twelve animals survived, none of the three having been treated with the opiate alone. Of all the animals experimented upon in the six series, after deducting the six poisoned by an opiate alone, only three survived; from which the author infers that there is a probability as of three to one against the existence of an antagonism between opium and belladonna. A similar number of like experiments upon sparrows produced similar results.

From these researches Dr. Camus thinks himself entitled to conclude that an antagonism between opium and belladonna does not exist in the case of either rabbits or sparrows, and expresses his belief that it does not exist as regards mankind. Against the validity of this conclusion it is remarked by Professor Winter that Dr. Camus not only administered atropine in quantities too large for the opiate that had preceded it, but that he also administered it much too soon after the opiate: thus allowing the question to be raised whether it was not the poisonous action of the atropine itself that was chiefly concerned in the result, its operation being well known to be more rapid than of opium.

The conclusions of Dr. Camus are also opposed by a case reported by Dr. W. Lubelski, of Warsaw, in which a patient poisoned by atropine recovered under the use of opium. (*Gaz. Heb.*, 1865.)

A woman who had suffered for many years from hysteria, on account of which she had taken much morphia, and had become habituated to its action, was ordered to take valerianate of atropine in a fresh attack. She was ordered to have 1

¹ Dr. Camus saw death ensue after the administration of

	To Rabbits.			To Young Sparrows.		
	1 grm.	within 2h.	30m.	1 cgrm.	within 0h.	7m.
Extr. Opii	1	"	4	1	"	0 20
Hydrochlor. of morph.	1	"	20	8	"	5 20
Narcotin	1	"	20	8	"	5 20
Codeia	20 cgrm.	"	20	0 4 mgrm.	"	16 0
Papaverin	50	"	2	7	"	0 8
Thebain	2	"	0	6	1	" 0 8
Atropine	1 grm.	"	0	19	2	" 2 10

grain in sixty pills, and to take one pill twice daily. She took three pills at once, therefore 1.20 grains, and soon exhibited marked symptoms of seemingly acute atropine poisoning. Dr. Lubelski prescribed Sydenham's laudanum, of which ten drops were taken five or six times within half an hour, milk and coffee to be drunk, foot-baths of ashes and flour of mustard, sinapisms to the epigastrium and extremities, and two enemata containing castor-oil. The patient soon slept, and the next morning she was quite convalescent.

Dr. Lubelski considers it especially worthy of note in this case that, although the patient was accustomed to the use of opium in considerable doses, it still produced its effect. On the other hand, the circumstances partly justify the objections of Dr. Camus; since, besides opium, various other means were employed.

If we combine the whole results of these observations, it will appear that morphia and atropine are naturally opposing poisons; but that while, on the other hand, atropine diminishes or removes the hurtful influence of morphia on the brain, without diminishing its sedative and pain-allaying power, yet on the other there is no complete antagonism between the two agents over the whole range of their action. In certain functions of the organism the antagonism is incomplete, in others it is wholly absent, and, in respect of the urinary bladder, the effects of the two poisons are alike.

ART. 143.—*An Illustration of the Antidotal Power of Tobacco in Strychnia Poisoning.*

By **NORMAN CHEVERS, M.D.**, Senior Physician to the Calcutta Medical College Hospital.

(*Indian Annals of Medical Science*, August, 1866.)

The details of the following case, appear to Dr. Chevers very clearly demonstrative of the fact that tobacco is capable of acting as an antidote in at least some cases of poisoning by Strychnia. The narrative is taken chiefly from the notes of his assistant, Mr. Chambers.

Hasse Juan, a Mahomedan girl aged eleven years, was admitted into the First Physician's ward in the evening of the 15th March, 1865, at 5.30 p.m., with symptoms of poisoning by strychnia. From the statement of the patient, as obtained during convalescence, it appears that her husband, who is a compounder in the hospital, and with whom, although she is a mere child, she lived, had kept in his house about three grains of strychnia with other drugs, and had warned his wife to be particularly careful of the powder. On the day of her admission, the man had a quarrel with his wife and struck her. She thereupon determined to put an end to her life. At 1 o'clock she had her dinner as usual, and at about 2 p.m. she took the drug and put it into her mouth, chewing the crystals. She found the drug anything but agreeable to the taste, and spat out, as she believed, the whole of it. Immediately after this, instead of washing her mouth, she swallowed some water to get rid of the intensely bitter taste which had been left behind. Within about half an hour the unfortunate girl began to suffer from sickness and a burning sensation about her throat and stomach. This was soon followed by marked convulsive fits. She had about five strong tetanic convulsions before admission into the hospital. Immediately the husband ascertained the cause of the attack, he administered sulphate of zinc and mustard emetics. She was brought into the hospital at about 5.30 p.m., three hours after the accident. The report, on admission, was:—"Countenance anxious, skin warm, pulse quick, pupils dilated, respiration easy, heart's action considerably accelerated and fluttering against the wall of the thorax; complains of a burning and suffocating sensation about the throat and chest, extremities stretched out, hands grasping firmly the sides of the bed, legs apart, feet everted, no frequent spasms."

Shortly after admission she had a severe tetanic convulsion, involving nearly

all the muscles of the body and extremities, which lasted for about one minute and a half. The chest was fixed, respiration became difficult, the body was bent backwards (opisthotonos.) This was followed by an interval of rest and relaxation of all the muscles, but the patient seemed to be much prostrated. Slight convulsive starts and twitching of the hands and feet followed at various intervals. After this attack the patient became so sensitive that the slightest touch or movement of the bed, or a sudden noise, would cause a spasmodic jerking of the whole body. A free mustard emetic, and a carthartic enema were given upon her admission. Symptoms continued much the same as before.

Dr. Chevers saw her soon after the emetic had been taken. Pure animal charcoal mixed with melted lard was given in large quantities. Immediately after this, she began to take, after each tetanic fit, small doses of an infusion of common tobacco one drachm to the pint. The following enteries are quoted from the hospital ticket:

"First, two doses of \mathfrak{M} xx of the infusion were given in quick succession, and were followed by a third dose of \mathfrak{M} xxv.—6.50 P.M. Has a severe spasmodic jerking of the body and twitching of the hands and feet. \mathfrak{M} xxx of the infusion given.—6.52 P.M. Has another similar attack. \mathfrak{M} xxx given.—6.54 P.M. Ditto, ditto.—6.57½ P.M. Ditto, ditto.—6.58 P.M. Ditto, ditto.—7.0 P.M. Patient has a severe tetanic convulsion, nearly all the muscles of the body and extremities being involved; complains of a very distressing sensation of the chest, which is spasmodically fixed. The whole body is in a general shudder. Thumbs and feet inverted, is firmly grasping the clothes on her chest, and is piteously calling out for some one to hold her, as she feels something tearing her heart. Heart's action greatly accelerated and fluttering against the chest. This fit lasted for about five or six minutes, and was so severe that the patient's recovery became a question of much doubt."

I think that, here, the entry of a full dose of the infusion has been omitted.

"7.7 P.M. Has a slight twitch of the hands and feet. \mathfrak{M} xv of the infusion given.—7.10 P.M. Ditto, ditto.—7.16 P.M. Ditto, ditto.—7.25 P.M. Has a pretty strong convulsive fit. \mathfrak{M} xxv of infusion given.—7.32 P.M. Has a light twitch of the extremities. \mathfrak{M} xx of the infusion given.—7.45 P.M. Ditto. \mathfrak{M} xij given. 7.50 P.M. Ditto. \mathfrak{M} xij given.—8.0 P.M. Vomited once. I took this as evidence that the tobacco was acting. Matter consists of dholl and rice mixed up with some animal charcoal. Is sitting and breathing pretty easily. Pulse 144."

The nature of the vomited matter proved clearly that the emetics given had never completely emptied the stomach, — a fact of self-evident importance.

"8.43 P.M. Has slight spasmodic starts and twitchings of extremities. \mathfrak{M} xxv of the infusion given.—9.40 P.M. Had two or three slight spasmodic startings. Bowels not yet moved. Is inclined to sleep lying on her right side. Pulse 124. Skin warm. Is breathing calmly. Can move her hands and feet without getting spasms.—10.42 P.M. Vomited once since last report. Matter consisted of undigested rice and some viscid mucus with a little tinge of blood. No recurrence of fit. Is breathing tranquilly, cannot sleep, although inclined to doze. Pulse 124.—11. P.M. Is sleeping now.—12. A.M. Vomited once since last report. Passed urine once since admission. No fit. Pulse 126. Has just fallen asleep.—1.10 A.M. Vomited once. Pulse 124.—2.30 A.M. Vomited once again.—2.33 A.M. Had one stool since last report.—3.25 A.M. Vomited once since report. Pulse 126. No fit.—5.35 A.M. Vomited once just now; complains of much thirst. Pulse 124. Swallowed a small quantity of water. No fit.—7.7 A.M. Vomited once a little while ago. Pupils sensitive to light.—8.30 A.M. No fit, no vomiting. Is quiet.—8.35 A.M. Vomited once a little while ago; brought up some grayish-looking matter.—12.15 P.M. Vomited twice after taking some milk and sago, retched up some undigested dholl and rice (the remains of the meal which she took before swallowing the poison.) Had one semi-solid stool.—1.30 P.M. Tried to take soup, but was obliged to reject it."

Barley-water was ordered to be given occasionally. This was retained in the stomach for some time.

"5.15 P.M. Stomach very irritable; cannot retain any food except barley-water; vomited some carbonaceous matter. Sinapism over the epigastrium.—7.0 P.M. Is slightly feverish. \mathcal{R} effervescing draught. Stat.—9.45 P.M. Is

asleep now, skin warm, pulse excited. \mathcal{R} liquor ammon. acet. Mist. 3j every three hours.—6 A.M. Stomach still very irritable, cannot retain medicine; skin of ordinary temperature; no stool. Olive-oil 3ss. Milk q. s. every hour.

"17th March.—Much the same, pulse feeble (104). Tongue coated but moist; no stool; pupils sensitive to light; complains of a burning sensation in the stomach; epigastric region somewhat hard and full. An enema of castor-oil and olive-oil to a pint of rice-water was given.—12 P.M. Pulse good; is sleeping now; had one stool after the enema.

"18th March.—5.30 A.M. Skin somewhat warm; pulse fair; is sleeping now; no stool.—7.30 A.M. Had one stool since last report; skin warm; pulse fair. Continue sweet-oil in 3ij doses every three hours; effervescing draught five doses.—6 P.M. Has not vomited to-day; took her food pretty well; no stool; tongue pretty clean; pulse 120; skin slightly above the natural temperature.—12.30 A.M. Vomited twice, matter consisted of lumps of carbonaceous substance with some bile; one stool of semi-fluid feculent and scybalous with some carbonaceous matter; took an emetic.—2 P.M. A lump of carbon and lard about the size of an olive was retched up, with about an ounce more of the same matter in small particles after the administration of the emetic; says that she feels easier; pulse 116.—5 P.M. Pulse 112; skin moderately warm; took her food pretty well; vomited once; no stool; is sleeping now. $\mathcal{O}l.$ ricini 3ij in cinnamon-water.—Stat.

"19th March.—Improving; pulse 96; tongue clean; had one solid stool; no vomiting; retains her food; complains of a little pain in the stomach; a small bit of carbonaceous matter was brought up.—12 P.M. Had one stool; passed about four or five ounces of carbonaceous matter. Repeat the castor-oil draught.—8 P.M. Had three stools; motions contain the same blackish matter as before, about ten or twelve ounces, mixed with some semi-solid feculent matter.

"20th March.—Had one stool; motion contains some grayish-looking substance; no vomiting; takes food pretty well. Discontinue the sweet-oil; calumba mixture, thrice daily.—6 P.M. Had two stools, one of which contained some blackish matter.

"21st March.—Improving; had one stool; appetite good; tongue clean; pulse natural; no vomiting.—5.30 P.M. Had two stools, solid and of natural color; no more vomiting.

"22d March, 1865.—Doing well; appetite good; one stool.

"23d March.—Much the same.

"24th March.—Discharged—well."

On this case Dr. Chevers remarks:—

"I believe that this is the first recorded instance of poisoning by the pure alkaloid of *nux vomica* occurring in a native of India. The quantity actually swallowed is of course very doubtful. Fortunately, the rash act was committed soon after a full meal of rice had been swallowed.

"The precise time which elapsed before symptoms of poisoning set in is questionable. The statement is 'within half an hour.' Tetanic spasms continued, in my presence, from about 5.45 to 9.40 o'clock P.M.

"The danger was so imminent that I considered it my duty to administer, all together, those agents which, having been recommended in strychnine poisoning, came most readily to hand. They were not incompatible with each other; and, although it may be questioned how far each aided in or retarded the recovery, I think that the *modus operandi* of two—the lard and the tobacco—was distinctly apparent.

"As much animal charcoal as could be mixed with melted lard without destroying the fluidity of the latter, was given in tablespoonfuls. The quantity of this filthy mixture swallowed was probably not less than a pound. It appears, on Dr. Taylor's authority, that the efficacy of animal charcoal in strychnia poisoning is uncertain. In the present case it is extremely questionable whether it had any good effect whatever. Lard was first recommended by Dr. W. N. Pindell, who, in the *American Journal of Medical Sciences* for October, 1855, reported, that, in dogs, this fat, swallowed in large quantities, acts as an antidote to strychnia. I have also a reference to the successful use

of oil under similar circumstances, but I cannot now find the first number of the *California Medical Journal* in which the observation appeared. . . .

"I feel confident that in this case the poison took full possession of the nervous system, the contents of the stomach never having been thoroughly evacuated as long as tetanic symptoms lasted, and that recovery was wholly due to the antidotal action of tobacco. Nothing short of death by trachealismus in tetanic eclampsia could well have been more fearful than the spasms which this poor little creature endured. I employed this antidote upon the suggestion afforded by the case related by Dr. O'Reilly, U. S. ;¹ which is that of a man who, having swallowed six grains of strychnia, took upwards of an ounce of infusion of tobacco-leaves, given in small doses at intervals, and recovered. He had previously taken an emetic which had caused copious vomiting. Much less efficacy must be attributed to the emetics in my case.

"I believe that the very large quantity of infusion of tobacco swallowed by this child, viz., at least 355 minims, or nearly five fluid drachms of infusion of a drachm to the pint of boiling water, could not have been safely taken within three hours, and that the repeated doses could not so long have failed to produce vomiting or any other evidence of nicotism, had the power of this agent not been met and for a long time resisted by that diametrically opposite condition of the nervous system which strychnia gives rise to. This case appears to me to confirm in the strongest possible manner the general correctness of the arguments of M. Brown-Séquard, Claude Bernard, and Dr. Haldane, to the effect that strychnia does not act as a direct excitant of the nervous system, but it exaggerates excessively the reflex functions of the spinal cord, so that the slightest irritation produces tetanic convulsion. And it appears to produce the augmentation of the vitality of the spinal cord in two ways:—1st, by increasing the amount of blood in the spinal cord, by paralyzing the muscular coats of the vessels which supply it; and 2d, by acting in a special manner on the tissue of the cord."

ART. 144. — *Efficacy of Persulphate of Iron as an Hæmostatic.*

By Dr. W. A. WETHERBY, New York.

(*American Journal of the Medical Sciences*, July, 1866.)

Dr. Wetherby relates the following cases illustrative of the efficacy of this drug in arresting hæmorrhage:—

"CASE 1.—On March 8d of the present year, Dr. S. T. L. Beck, of No. 40 Bond street, New York, and myself were suddenly called in the case of Mr. M. S., the well-known musical agent and manager, upon whom one of the most skilful surgeons of this city had, a few hours previously, performed the operation of excision of the tonsils in a very satisfactory manner, and with apparent safety to the patient; excessive hæmorrhage in such cases being of rare occurrence. On our arrival, however, the blood was flowing at a very rapid rate; and judging from appearances, the patient, who already had begun to show signs of syncope, had lost some forty or fifty ounces. We procured a drachm of Monsel's salt as soon as possible, and with a moistened probang covered with the powder touched the bleeding parts.

"The effect was almost instantaneous: but lest there might be a recurrence of the difficulty, we dissolved the remainder in water, to be used as a gargle. The further management of the case was, as usual, very simple, and not a drop of blood flowed from the parts after the first application.

"CASE 2.—This case is more singular in many of its features, and may, perhaps, suggest a more extended use of this preparation than has heretofore been made.

"During the night of April 25, 1865, I was called, perhaps more to fulfil the

¹ *Medical Times and Gazette*, June 12th, 1858, p. 600; and Taylor on Poisons, *Second Edition*, page 783.

requirements of decency than from any confidence in the efficacy of my services, to visit Dr. L. N., of this city, who was suffering from an alarming attack of hæmoptysis, which had failed to yield to the more usual remedies, as lead, opium, &c. It had been preceded for several weeks by a severe cough, profuse purulent expectoration, extreme emaciation, and, in fine, by all the symptoms incident to that slow but sure destroyer, consumption. The patient himself was aware of his condition, and had lost all hope of recovery, but begged of me to make an effort to prolong his life for a few hours that he might dictate some last bequests to his friends abroad. Emboldened by my previous success with the article, and reflecting that all the usual legitimate preparations had failed, I sent for some *persulphate of iron*, very dry, and reduced to an impalpable powder. A small quantity of this was administered by *insufflation* into, the lungs every hour during the remainder of the night and the following day. The success in arresting the hæmorrhage was *perfect*, and encouraged by this, I was induced to experiment still further in correcting the discharge of matter from the lungs. Directing its use in the same manner, though with less frequency, for some time, and assisted by the action of general remedies, I soon had the satisfaction of seeing my patient leave his bed, his room, and in a short time, his house; and now, in a few months afterwards, he is prosecuting a large and successful practice in his profession, subjecting himself to all its arduous duties with no inconvenience or ill health."

ART. 145. — *On some New Compounds of Ether: Styptic or Hæmostatic Ether.*

By BENJ. W. RICHARDSON, M.A., M.D., F.R.C.P., Senior Physician to the Royal Infirmary for Diseases of the Chest.

(*Medical Times and Gazette*, April 28, 1866.)

Dr. Richardson's researches on the production of local anæsthesia by means of ether spray have led him to invent a few new compounds of ether which cannot, he thinks, but prove useful in practice.

"**HÆMOSTATIC ETHERS.**—In observing the influence of the cold produced by the dispersion of absolute ether during operations, nothing has struck me," he writes, "more than the effect of the cold in immediately stopping the flow of blood. For a time, cold alone, when carried to its fullest degree, prevents all venous and capillary hæmorrhage, and even the hæmorrhage from small arterial trunks. After a time, however, as reaction returns, and the vessels relax under the influence of heat derived from the renewed circulation, there is bleeding, which, if a wound be closed too quickly, is a cause of after-trouble. The observation of the immediate effects of cold led me to think that if they could be supplemented by a styptic which would spray evenly, with ether, and which would take up the constringing action when the vessels commenced to relax, an important desideratum in both medical and surgical practice would be supplied.

"**XYLO-STYPTIC ETHER SPRAY.**—With this object before me, I requested Mr. Robbins to make for me a solution consisting of absolute ether, having a boiling point of 92° Fah., charged to saturation at a low temperature with tannin, and afterwards treated with xyloidine, a little short of saturation. The compound, made with much care, came out well. It ran easily through the spray-tube without blocking; it produced good local anæsthesia, and it possessed an agreeable odor.

"In order to test to the extreme the effects of this preparation as a styptic, I took sheep's blood, removed all the fibrine previous to coagulation by whipping, and then let the blood remain exposed to the air for two days to insure partial decomposition. In this way the blood was rendered nearly as fluid as port-wine, and in the most unfavorable condition for being transformed into clot. A few drachms of this blood were now placed in a saucer, the saucer having been warmed to the temperature of the body. The spray of the styptic

ether was then directed upon the blood from a full-sized spray-tube, and in five seconds the whole mass of blood was so thoroughly solidified that the saucer could be turned upside down without any escape of fluid. The blood, which had previously presented the odor of putrefaction, was also deodorized, and remains quite inodorous at this date—ten days after the experiment. The blood sets in a firm leathery consistence, covered on its upper surface with a fine whitish layer, with a bright vermilion color beneath.

"These are the effects of the styptic ether on blood, the spontaneous coagulability of which has been lost, and I had the pleasure of showing these effects at the College of Physicians during a lecture on heat and cold in the treatment of disease; but these effects are trifling when compared with what takes place on blood newly drawn, and which contains fibrine. In this case the coagulation under the influence of the spray is the work, I had almost said, of a second.

"When this spray is directed on an open bleeding living surface, the primary effects are those produced by the cold—namely, the condensation and whitening of the tissues. If blood be flowing, it solidifies, and when the parts relax, new blood that may ooze up enters the solid blood as though it were a sponge, quickly solidifying by coagulation, and stopping further flow.

"The applicability of this process for the arrest of hæmorrhage will occur to the mind of every practitioner. The substances used in the compound are innocuous, and the combined influence of the cold and the styptic are immediate, and so decisive that I can scarcely imagine any hæmorrhage they would not control. I have not had an opportunity of testing the point, but I have no doubt, from the influence of the styptic on the decomposing albumen of defibrinated blood, that even in those cases of hæmorrhage where the blood is preternaturally fluid, the styptic spray would arrest the hæmorrhage entirely. Where the blood contains fibrine in a natural condition, I cannot imagine a case in which the fluid would not prevent exudation.

"The essential elements of the process are three in number:—

- "1. The immediate constricting effects of cold on the blood-vessels.
- "2. The chemical action of the solution on the fibrine and albumen of the blood.
- "3. The extreme mechanical fineness of distribution of the fluid on the bleeding surface.

"The styptic ether can not only be applied to open wounds on the skin, but to hæmorrhage after the extraction of teeth, and, by means of a uterine tube, to hæmorrhage arising from cancerous disease of the uterus or other cause. It might also be applied to the rectum in cases of hæmorrhage from piles.

"The apparatus required for this styptic ether is mechanically the same as for ordinary ether—that is to say, my spray-tube with Dr. Clarke's hand-bellows. The tube, however, requires to be made of different metal from that ordinarily in use for local anæsthesia; and I have therefore instructed Messrs. Krohne and Sesemann to construct a special tube for the purpose.

"**FERRO-STYPTIC ETHER.**—I have tried other experiments with the persalts of iron, which are more or less soluble in ether, especially the perchloride; and these one and all produced, as a styptic ether, rapid coagulation of blood. Solutions of iron salts in ether are not, however, more effective than the ether I have already described; and as they destroy the tube rapidly, act upon clothing injuriously, and do not so thoroughly deodorize, I do not think they are in the main so practical.

"The styptic ether, containing xyloidine and tannin, will keep ready for use any length of time, as there is nothing in it to undergo decomposition; and as very small quantities of it are required, it will become, I trust, of standard service to the medical practitioner. It would be of great use also to surgeons on board ship, and particularly to army surgeons. In case of warfare it would be exceedingly useful on the battle-field, as under the instruction of the surgeon it could be used by an orderly, so as to prevent hæmorrhage instantaneously in the case of flesh-wounds. It would also form a useful addition to the medical cabinet of travellers, who by necessity are removed from the direct succor afforded by medical art."

ART. 146. — *Experimental Investigations into the Action of the Bromide of Potassium.*

By DR. ROBERTS BARTHOLOW.

(*Cincinnati Lancet and Observer; American Journal of the Medical Sciences, January, 1866.*)

The author's investigations were conducted in three directions: 1st. The chemical properties; 2d. The physiological effects; and 3d. The therapeutical uses of the salt.

The physiological effects of the salt when taken into the stomach, Dr. B. sums up as follows:—

"1. It proves irritant in large doses to the mucous membrane of the stomach.
"2. It is rapidly absorbed into the blood, and may be detected soon after in the urine.

"3. It acts upon the nervous centres, producing sedation, sleep, reduces the action of the heart and arteries, lowers the temperature, and diminishes the retrograde metamorphosis of tissue."

The prolonged administration of the bromide of potassium produces, according to Dr. B., the following effects:—

"1st. It diminishes and ultimately entirely neutralizes the sexual appetite.
"2d. It produces weakness of the muscular system.

"3d. It is irritant to the stomach if given in considerable doses; and

"4th. It interferes with the secondary assimilation, lessening the retrograde metamorphosis of tissue."

In regard to its therapeutical uses, Dr. Bartholow extols it as a *disinfectant* and *deodorizer*, as an *escharotic* in sloughing and gangrenous ulcer, phagedenic chancres, hospital gangrene, epithelioma, &c.

"The actions of the bromide of potassium, physiologically considered," Dr. Bartholow states, "consist in a sedative or contra-stimulant effect upon the nervous centres, producing as secondary phenomena, sedation of the heart, anæmia of the brain, anaphrodisiac effects, and diminution of the retrograde metamorphosis of tissue. It has come into use in various functional and organic nervous disorders, and in certain sexual diseases where a calmative and sedative influence is desired."

This salt Dr. Bartholow considers to be indicated as a hypnotic in states of nervous excitement without congestion of the nervous centres; in hysterical insomnia; in delirium tremens; in the insomnia of excitable business-men, or, in general terms, in those forms of insomnia dependent upon excitation without increased blood supply. He has found it especially useful in irritable bladder, and the chordee of gleet.

From a careful survey of all the facts, Dr. Bartholow gives the following as the *methodus medendi* of the salt in question:—

"1st. The bromide of potassium acts by absorption into the blood.

"2d. Its effects are expended upon the nervous centres, or the cerebro-spinal axis.

"3d. Sedation of the heart and circulation, and the various local sedative effects are secondary results of the impression made upon the nervous centres.

"4th. Its physiological effects are not very decided, and are easily modified by any local disturbance.

"5th. Its therapeutical action is still more decidedly influenced by local morbid processes.

"6th. It is indicated where a sedative to the nervous system is required—in insomnia; in great reflex excitability; nervous and spasmodic affections of the larynx and bronchi, sexual excitement, and in an irritable state of the sexual organs.

"7th. It will be effectual in the foregoing conditions, in proportion to the degree in which structural lesions are absent, or, in other words, in proportion to the degree in which these morbid states are functional rather than organic."

The bromide, Dr. Bartholow asserts, possesses none of the peculiar alterant properties of the iodide. Whilst this fact is true, it is undoubtedly the case that the bromide relieves the congestion of certain organs, diminishes their bulk, or, as it may be styled, produces resolution of an engorgement. Such action, apparently alterative or resolvent, is not really so. It has been exhibited mainly in certain states of the uterus and ovaries — states of hyperæmia dependant upon sexual excitement, or upon the monthly nîsus. The apparent resolvent power is, in this case, due to the sedative impression of the remedy upon the sexual organs and upon the vaso-motor nerves.

ART. 147.— *On the part which Lactic Acid and the Alkaline and Earthy Lactates perform in the Animal Economy.*

By M. BURIN DU BUISSON.

(*British and Foreign Medico-Chirurgical Review*, January, 1866.)

On this subject M. Burin du Buisson has arrived at the following conclusions:—

1. That in principle all the functions of the animal economy may be considered of two kinds—one acting by excess of acid, the other by excess of alkali; two acids only concurring to the maintenance of life—the lactic secreted in the economy, the phosphoric derived from the food.

2. That the quantity of lactic acid normally secreted in the twenty-four hours in the stomach of the adult man of the average weight of 75 kilogrammes, supposing this acid to be of 30° of Baume, and in the proportion of 1 per cent. of the gastric juice, is about 75 grammes—a quantity to which additions are made by the acid which is formed in the duodenum, jejunum, and small intestine.

3. That in health this acid is the *normal* one in the gastric juice, to the absolute exclusion of the hydrochloric, or any other acid, whether organic or mineral.

4. That the lactic acid occurs alone in the gastric apparatus, whilst in the solid and organized parts of the economy it is found conjointly with free phosphoric acid; whence it may be concluded that the presence of free lactic acid in our organs is indispensable for the production of the mixed chemico-physical phenomena essential to vital action.

5. That the young mammal has in milk the source of this acid, so indispensable to its economy and development, and in sufficient quantity; and that later, when weaned, it finds the same acid in the albuminoid matter which should form the chief portion of its nutriment, and which, like milk and feculents, is equally liable to undergo the lactic fermentation.

6. That the lactic acid procured from flesh and its juices, is identical in its properties with that contained in the gastric juice, and yet differs as regards its salts; whence we are led to believe, with M. C. G. Lehmann, that the free acid of muscles, and of their juices, is derived from the muscular fibre itself, under the influence of the physical functions of these organs.

7. That the free action of the stomach, besides the action which it exerts on albuminous matters, facilitates in a remarkable manner, by endosmosis, the absorption of chyme, and its passage into the alkaline blood and lymph.

8. That by the notable quantity of lactates, alkaline and earthy, with a base of soda, potassa, ammonia, magnesia, and lime, which it gives rise to, and which are found in all the active fluids of the economy—the saliva, the gastric juice, the chyle, lymph, blood, the humors of the eye, &c., it facilitates by a special action the selection and separation of the four orders of aliments¹ one from the

¹ 1. Proteic, so termed (albumen, fibrin, casein, &c.)

2. Amylaceous (starch, gum, sugar.)

3. Fatty (oils, fats, butter, &c.)

4. Mineral (earthy phosphate, alkaline chlorides, &c.)

other; and that, when taken into the blood-current, these lactates become a powerful source of heat by the combustion of their acid, whilst the alkaline bases, soda, and potash, contribute to the alkaline quality of the same fluid.

9. That the bicarbonate of soda and the carbonate of magnesia, as given in small doses in aid of digestion, are inoperative until they have passed into the state of lactates of soda and magnesia.

10. And that even magnesia, when administered as a purgative, does not, according to the observation of M. Mialhe, take effect until converted in the stomach into a lactate.

ART. 148.—*On the Therapeutic Use of the Lactates.*

By J. E. PETREQUIN, Professor in the School of Medicine, Lyons.

(*British and Foreign Medico-Chirurgical Review*, Jan., 1866.)

The following is a summary of a new method of treatment of an important class of disorders:—

Professor Petrequin, unlike M. du Buisson, does not consider that one acid is alone concerned in digestion. He admits that the hydrochloric may also take part in it. The lactates to which he gives the preference are those of soda and magnesia, or rather a double salt composed of the two, which at his desire M. du Buisson succeeded in forming. It possesses the valuable property of not deliquescing like the lactate of soda, on exposure to the air, or of undergoing any change from exposure, and is fit to be given in the form of pastil, or powder. In its dried and pulverized state it is white, of extreme tenacity, with only a just perceptible odor of lactic acid, and a slight saline alkaline taste, with a faint bitter after-taste.

Before treating of the ailments for which he prescribes this salt, he dwells on the peculiar advantages which the lactic acid possesses over every other acid; and first and chief, that the stomach and intestines are able to elaborate it from the materials essential to life—namely, the aliments themselves; next, that, as an organic acid, it is readily decomposable and eminently combustible. He observes that to appreciate duly these qualities, we should keep in mind the enormous quantity of the gastric juice which is indispensable for digestion, and how, in this process, the acid, or rather its alkaline salts, are decomposed, the excess of alkali being excreted by the kidneys and skin, and the acid itself, except that portion of it which is retained in the muscles, furnishing combustible elements, carbon and hydrogen, to the blood, and becoming a source of animal heat.

The ailments connected with digestion he does not, as of old, view as originating solely in the stomach. He treats of them under buccal, gastric, and intestinal derangements.

Under the first he notices, 1st, an acid state of the saliva, coexisting with difficult digestion, alteration of the teeth, and bad breath. In cases of this kind he has prescribed with advantage from one to two or three pastils of the lactate of soda and magnesia, directing that they should be left to dissolve in the mouth, and not broken by the teeth. 2dly, he adverts not to a vitiated quality of the saliva, but to a deficiency of its quantity, producing what may be called a dry dyspepsia from insufficient salivary secretion, and attended with laborious and imperfect digestion, a dryness of the mouth and fauces, with eructations, &c. In such cases he gives from one to two or three pastils of the same salt before each meal, with the same instructions, so as to promote the flow of saliva, and orders the repetition of them after food. He assures us that this mode of treatment has often been so beneficial and in so short a time as to have exceeded even his expectations.

The gastric digestive arrangements are less limited; he specifies four: 1. Acid dyspepsia, an aggravation of the former, often accompanied by pyrosis. For this he prescribes a dose of lactate of magnesia (thirty centig.) and a saccharine lactate of soda (twenty centig.) to be taken before a meal, presently fol-

lowed by one or two pastils of the lactate of soda and magnesia. 2. Flatulent dyspepsia, with eructations, sometimes inodorous, sometimes acid, occasionally foetid; the first two commonly connected with imperfect digestion of flatulent food, especially farinaceous. The treatment advised is much the same as the preceding, with this difference, that if the flatulency is experienced some hours after eating, the lactate should be used, not before, but after the meals. 3. Dyspepsia with gastralgia or gastrodynia. This variety of the malady is also efficiently treated by the lactates; they should be administered whenever the stomach becomes the seat of pain after taking food, or in some cases should be continued daily until the malady is relieved. 4. Natural dyspepsia, so designated by our author, in which there is neither excess of acidity, nor any of the preceding complications, but a state of atony with a feeble and altered digestion. The evacuations are foetid, and the patient, from defective nourishment, becomes emaciated and loses strength. In such cases he considers the gastric juice to be in fault, either deficient in quantity, or altered in quality. When of the first kind, stimulation of the secreting organs is requisite, and may be effected by the alkaline lactate given in the form of powders and pastils. When of the second kind, he has recourse to pepsine in conjunction with the lactates; these two being helpmates and essential to healthy digestion. He prescribes them in the form of pastils composed of ten centigrammes of the former and five of the lactate of soda and magnesia, and often with the best effects.

The functional derangements belonging to the third, the intestinal digestive process, are more obscure than the preceding—that is, physiologically considered, though their symptoms are sufficiently manifest. Their origin he attributes for most part to diet, especially of farinaceous articles, liable to accumulate and load the intestines. As the lactates in a large dose are aperients, they are peculiarly suited for this form of ailments.¹

The author takes a wide view of dyspepsia, justly remarking that, though he has treated of it locally, and that it is often merely a symptom, or a functional derangement, yet, if long continued, it may terminate in organic lesion. His advice is, that, besides local, it requires general treatment, directed to the specialities of each case, with particular attention to all those circumstances likely to conduce to healthy digestion. His first indication is to reform the hygiene when depraved, to regulate the regimen when not in accordance with the precepts of science; when the meals have been irregular, to insist that they be taken at fixed hours; to direct attention to the due mastication of the food; to prohibit the use of tobacco, &c. He adds, moreover, that it is necessary to combat pathological complications by suitable means; for instance, the chloropathic, by preparations of iron and manganese; enervation by quinine; general asthenia by tonics and restoratives; and the rheumatic diathesis by mineral waters, which may be called into aid in a variety of other cases.

ART. 149. — *On Ether as a Local Application.*

By Dr. JOHN J. BLACK, of Philadelphia.

(*American Journal of the Medical Sciences*, April, 1866.)

Dr. Jules Worms has concluded from a minute examination of the deposit on the surface of aphthæ, that it consists of a fatty matter, which is not to be found in any other disease of the mouth, and he infers from the solubility of the exudation in ether, that this article might prove a useful remedy for the affection.

¹ The following formula is given for these lozenges as prepared by M. Du Buisson:—

R Saccharine lactate of soda	8
Lactate of magnesia	2
Amylaceous pepsin	8
Powdered sugar	61
Mucilage of gum tragacanth	q. s.

A gramme to be prepared at a time; it should be quickly dried and kept in a dry place.

Accordingly he resorted to its application, and with the most beneficial results. This remedial agent removes, he states, "the yellowish secretion, a new epithelium promptly forms, and no trace of the superficial ulcers remains beyond slightly increased vascularity of the mucous membranes."

Prompted by this statement, Dr. Black determined to give the remedy an extended trial, and he endeavors to show, by the results, that ether locally applied is a most efficient remedy not only in aphthous ulcers but also in most of the other diseases of the mucous membrane of the mouth and adjacent parts, in which, according to the researches of Dr. Worms, the deposits are of a non-fatty nature. He writes:—

"*Aphthæ*.—We have used the application in several cases of this disease, and invariably found the affection to yield after a few applications, daily repeated. A camel's-hair brush was dipped in ether and applied freely over the parts; it appeared to smart a little at first, but great relief soon followed. This was certainly marked both in character and point of time, in comparison with that obtained by borax and similar preparations.

"*Thrush*.—In this disease above all others we have been pleased with the results of the application. The cases presented themselves in the Obstetrical wards of the Philadelphia Hospital, Blockley, which of course were fruitful in that disease—containing so many badly-nourished children. It was applied directly to the parts, as in aphthæ, with a camel's-hair brush. At first it produced or seemed to produce a slight difficulty in inspiration, which was soon relieved by a hearty cry of the infant. Of course its presence in the mouth could not have been pleasant, but in no case was it followed by an unpleasant symptom. The deposit was not immediately dissolved, but seemed to disappear gradually, and in most cases after twenty-four hours there was none whatever to be seen, and the one application completed the cure (at least the local cure). In other cases a few spots remained, and if they persisted after another twenty-four hours we repeated the application, and in every instance a cure resulted. These cases were all carefully watched, some of them for several months, and in no case was there the slightest return of the complaint. In from three to four days the mucous membranes became perfectly normal; in the interval from the disappearance of the deposit to this time it presented something of the appearance of erythematous stomatitis without the usual dryness attendant on that affection. Between twenty and thirty cases were treated in this manner, and after the disappearance of the thrush they improved wonderfully. These results tend to strengthen the idea that thrush is a local disease confined to the mouth, or at least that this part only causes inconvenience, and the constitutional troubles as it were radiate from that centre.

"*Ulcer-Membranous Stomatitis*.—In this disease we have had the opportunity of testing it in three cases. One supervening upon pleurisy died with extensive sloughing of the parts of the jaw involved. Another recovered without any serious trouble, and seemed to have been greatly benefited by the ether. The third case, more serious, also recovered. Here the parts were apparently in a gangrenous condition, and it only differed from true gangrene of the mouth in commencing in, and being more particularly confined to the gums, without seriously involving the cheek. The sloughs were kept well detached, the parts washed with diluted chlorinated soda, and the ether applied thoroughly morning and evening. A change for the better soon came over the parts, and the patient recovered with the loss of a portion of the alveolar border of the jaw. Of course we combined with this treatment tonics and stimulants to the fullest extent.

"The question here arises whether ether might not act beneficially locally applied to true gangrene?

"In acute pharyngitis, the sore throat every day met with, we have found it one of the very best applications, in all its stages. We apply it with a camel's-hair brush; at first it stings for a minute or two, and then a pleasant coolness is experienced in the part, giving most marked relief, and patients almost invariably express themselves as feeling greatly benefited. The most noticeable feature in these cases is, the rapid subsidence of the swelling and tumefaction of the parts, and which the patients never fail to notice. In chronic pharyngitis

also it produces the same marked relief; and in specific and non-specific ulceration of the throat, where the patient is much troubled by the accumulations of mucus and other secretions, we have found the best plan of treatment to consist in washing out the throat well with a mop dipped in a strong alkaline solution which dissipates the mucus, &c., and then applying ether to the parts. In chronic laryngitis we have seen benefit derived from inhaling ether, not of course up to the production of anæsthesia. Here an attempt at its local application proves decidedly irritating.

"In diphtheria we have not yet had the opportunity of testing the remedy, but this is the disease in which we have always expected to derive the greatest benefit from it. While we do not consider the mere throat manifestations as the sum and substance of diphtheria, nevertheless it is rational to suppose that these exudations, when swallowed, must tend to poison the system anew, and set up exhausting diarrhoeas, &c.; and looking at them in this light, it is certainly of the greatest importance to get rid of them. It is also, perhaps, of not less importance to get rid of the mechanical impediment which they offer to the breathing, and also of the swelling which is so often a serious matter. As before stated, we have not had the opportunity of testing it in this disease, but my friend, Dr. D. F. Woods, of this city, has kindly reported to me a case in which he used it, and in which he derived from it all the benefits before mentioned. He said it appeared to disperse the membrane, reduced the swelling, and altogether placed the patient in a more comfortable condition. Dr. Woods also reported to me that he had used it often in the ordinary pharyngitis, tonsillitis, &c., frequently combining nitrate of silver with it, and always with the most marked and decided benefit, surpassing in his estimation all other remedies.

"It strikes me at the moment that ether might also be useful to cleanse the teeth, gums, and tongue from sordes and such accumulations in low fevers, and might possibly produce a permanent change for the better in the secreting apparatus there situated.

"There is another trouble in which ether must prove a very valuable remedy, although we have not had the opportunity of testing it. We refer to 'herpes præputialis,' that annoying and troublesome complaint with which some persons are so much afflicted. It would also possibly prove efficacious in many skin affections, such as eczema, psoriasis, &c., the crusts having first been removed with a poultice.

"According to Professor Woods, ether has been locally applied to neuralgic pains, ear-ache, superficial burns and scalds, and also to aid in the reduction of strangulated hernia; but in all these cases the cuticle was entire. There are doubtless many other conditions in which ether might be beneficially applied as a local agent, and which will doubtless suggest themselves in practice. There is, however, one more condition in which we must refer to its beneficial action, viz., chronic ulcers.

"The ether used in all the foregoing cases was the sulphuric ether, the 'Æther,' U. S. P.

"In regard to the manner in which ether locally applied produces its results, we remark, in the first place, that it is a local stimulus, and appears thoroughly searching and penetrating in its action. Thus then it increases absorption, prevents or dispels congestion, and allows free osmotic action. Again, very probably it changes the nature of the local cell action, which having been turned from its normal channel may thus be driven back to its course. Again, it undoubtedly acts to a great extent chemically. It has been shown by Rokitsansky and others that most of these exudative inflammations contain fat, both the mucoid exudative and the fibrinous exudative, the one running into the other, except it be checked. Now the well-known solvent power of ether over fats shows us then that it must act beneficially through its chemical properties. Other chemical changes it doubtless brings about, but of their true nature we are at present unable to determine.

"N.B.—It is well to bear in mind when using ether in any manner that great caution must always be observed to prevent the near approach of flame or heat to it, for by neglecting this point serious accidents may arise."

ART. 150.—*On the Use of Sulphites of Lime and Soda as Remedial Agents.*

By Dr. A. FISHER.

(*American Journal of the Medical Sciences*, July, 1866.)

In a report on this subject presented to the American Medical Association, Dr. Fisher arrives at the following conclusions:—

"1. That the sulphites of soda and lime can be given to patients suffering from zymotic diseases, in large quantities, and continued for a long time, without producing deleterious effects.

"2. That, in accordance with Dr. Polli's experiments, the sulphurous acid is disengaged from the alkaline base in the system, permeating it in every part, thereby preventing fermentation or decomposition of the blood.

"3. That they do not destroy or decompose the poison in the system, but prevent its deleterious action on the blood, and consequently the tissues, until it is eliminated from the system.

"4. That the quantity prescribed should be in proportion to the malignancy of the disease; that is, the more hopeless and malignant the case, the greater should be the quantity administered in a certain time.

"5. That these remedies should not be too suddenly withheld in bad cases, but continued until the poison is carried out of the system by the emunctories.

"6. That the effect of these remedies, in well-marked cases of blood-poisoning, is imperceptible for the first few hours, but by continuing them for a day or two, the secretions become improved, and the patient is relieved of the morbid symptoms.

"7. That these remedies will not cure inflammation of an organ already established, though in cases where they are indicated, they prevent the deleterious effect of the poison until the inflammation subsides, or is relieved by appropriate remedies.

"8. That the use of these agents will not prevent the use of other remedies indicated in the particular case, unless chemically incompatible.

"9. That these remedies are generally well retained on the stomach, though the dose is large, and the sulphurous taste is disagreeable to some patients.

"10. That the more malignant and hopeless the case, the more perceptible and satisfactory will be the effects of these agents, unless the case is beyond the reach of remedies."

ART. 151.—*Medicinal Uses of Ptelea Trifoliata.*

By O. F. POTTER, M.D., St. Louis, Mo.

(*New York Medical Journal*, Dec., 1865.)

The plant known as the ptelea trifoliata, or, commonly, as the wafer-ash or wingseed, a species of so-called swamp dog-wood, is of the natural order Xanthoxylacea.

It is a shrub of from six to eight feet in height. The leaves are trifoliate and marked with pellucid dots. The leaflets are sessile, ovate, short, acuminate, downy beneath, lateral ones inequilateral; terminal ones cunate at base, from three to four inches long by one to one and three-fourths inches wide. The flowers are polygamous, nearly one-half inch in diameter, of a greenish-white color, and of a disagreeable odor. Stamens mostly four, with style short; fruit, a two-celled samara, nearly an inch in diameter, winged all round, nearly orbicular. It flowers in June. It is common to this country, growing more abundantly west of the Alleghanies, in shady, moist, and rocky places,

generally at the edge of woods. The bark of the root possesses its peculiar medicinal properties, which it yields to boiling water, but alcohol is its best solvent. The bark, when dried, is of a light brownish-yellow color, comes in cylindrical rolls or quills a line or two in thickness, and from one to several inches in length; is irregularly wrinkled externally, and is covered with a thin epidermis; internally it is of a yellowish-white, but becomes darker on exposure. It has a peculiar, rather aromatic smell, and a bitter, pungent and rather acrid taste, yet nothing disagreeable; the pungency is persistent, which is owing to the oil which it contains.

Dr. Potter has been using it as a tonic to follow the use of quinine in all grades of fevers, also in cases of general debility connected with gastro-enteric irritation. It is mild, unirritating, having a soothing influence on the stomach, promoting digestion. It promotes the appetite, enabling the stomach to endure suitable nourishment, and favors the early re-establishment of the digestive functions, and will be tolerated by the stomach when almost all other tonic or stimulant remedies are rejected. Dr. Potter has found it especially useful in cases of debility following a low grade of fevers, also with females after confinement, or where the menstrual functions are deranged, frequently by sustaining the digestive and secretive functions, regulating the menstrual flow; also as a sustaining and strengthening stimulant in debility connected with or following wasting ulcers or scrofulous sores.

He has been in the habit of using it in the form of a tincture, made by putting six ounces of the bark and one-half ounce of ginger to two quarts of whisky; the dose from one to two tablespoonfuls three times a day for an adult.

He feels assured, from over ten years' experience in using it, that it will be found a most valuable and reliable remedy. It has been used occasionally by the so-called eclectic physicians, and also by the negroes of the South, who call it the scrofula root, from its usefulness in sustaining the system when debilitated by that so common disease amongst them. The old French inhabitants near St. Louis also used it many years ago as a cure for the intermittent fevers of the country, long before quinine was known. When taken for a great length of time, or in very large doses, it now and then, in some persons, occasions an erysipelatous inflammation in the surface, which, however, lasts only for a short time if its use is persevered in, and no ill effects follow it.

ART. 152. — *Phosphorus Pills*.

By Dr. RADCLIFFE, Physician to the Westminster Hospital and the National Hospital for the Paralyzed and Epileptic.

(*Pharmaceutical Journal*, 1866.)

Dr. Radcliffe having tried various means of administering phosphorus, has at length succeeded in effecting this in the form of pills; and as other medical men are now ordering phosphorus in this form, we have thought it desirable to publish the formula for the information of our readers. Take of—

Phosphorus	6 grains.
Suet	600 "

Melt the suet in a stoppered bottle capable of holding twice the quantity indicated; put in the phosphorus, and when liquid, agitate the mixture until it becomes solid; roll into three-grain pills, and cover with gelatine. Each pill will contain $\frac{1}{3}$ of a grain of phosphorus.

ART. 153. — *On the Anæsthetic and Sedative Properties of Bichloride of Carbon, or Chlorocarbon.*

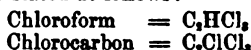
By Sir J. Y. SIMPSON, M.D., Professor of Medicine and Midwifery in the University of Edinburgh.

(*Medical Times and Gazette*, Dec. 16, 1865.)

As the result of personal experiments on the consequences of the inhalation of the vapors of various fluids, Sir James Simpson states that the vapor of one of the chlorides of carbon approaches nearest in its quality and effects to chloroform as an anæsthetic agent. The fluid in question is the bichloride of carbon. He writes:—

"It was first, I believe, discovered by M. Regnault, in 1839. It has already received various appellations from various chemists, as perchloroformene, perchlorinated chloride of methyl, dichloride of carbon, carbonic chloride, tetrachloride of carbon, superchloride of carbon, perchloruretted hydrochloric ether, and perchloruretted formene (see Gmelin's *Handbook of Chemistry*, vol. vii. p. 355, and Watt's *Dictionary of Chemistry*, vol. i. p. 765).

"If it becomes, as I believe it will, for some medicinal purposes, an article of the materia medica, it will require to have a pharmaceutical name appended to it, and perhaps the designation of perchloroformene, or the shorter term chlorocarbon, may prove sufficiently distinctive. In its chemical constitution, bichloride of carbon, or chlorocarbon, is analogous to chloroform; with this difference, that the single atom of hydrogen existing in chloroform is replaced in chlorocarbon by an atom of chlorine, for the relative chemical constitution of these two bodies may be stated as follows:—



"The chlorocarbon can be made from chloroform by the action of chlorine upon that liquid; and Geuther has shown that the process may be also reversed, and chloroform produced from chlorocarbon, by treating it in an appropriate vessel with zinc and diluted sulphuric acid, and thus exposing it to the action of nascent hydrogen. The most common way hitherto adopted of forming bichloride of carbon consists in passing the vapor of bisulphide or bisulphuret of carbon, together with chlorine, through a red-hot tube either made of porcelain or containing within it fragments of porcelain. There result from this process chloride of sulphur and bichloride of carbon, the latter being easily separated from the former by the action of potash.

"The bichloride of carbon, or chlorocarbon, is a transparent, colorless fluid, having an ethereal and sweetish odor, not unlike chloroform. Its specific gravity is great, being as high as 1.56, whilst chloroform is 1.49. It boils at 170° Fahr., the boiling-point of chloroform being 141°. The density of its vapor is 5.33, that of chloroform being 4.2.

"Besides trying the anæsthetic effects of bichloride of carbon upon myself and others, I have used it in one or two cases of midwifery and surgery. Its primary effects are very analogous to those of chloroform, but it takes a longer time to produce the same degree of anæsthesia, and generally a longer time to recover from it. Some experiments with it upon mice and rabbits have shown this—two corresponding animals in these experiments being simultaneously exposed, under exactly similar circumstances, to the same doses of chloroform and chlorocarbon. But the depressing influence of chlorocarbon upon the heart is greater than that of chloroform; and, consequently, I believe it to be far more dangerous to employ as a general anæsthetic agent. In a case of midwifery in which it was exhibited by my friend and assistant, Dr. Black, and myself, for above an hour, with the usual anæsthetic effects, the pulse latterly became extremely feeble and weak. In another case in which it was

exhibited by Dr. Black, the patient, who had taken chloroform several times before, was unaware that the new anæsthetic was different from the old; her pulse continued steady and firm, although she is the subject of valvular disease of the heart. The surgical operations in which I have used chlorocarbon have been, the closure of a vesico-vaginal fistula, the division of the cervix uteri, the enlargement of the orifice of the vagina, and the application of potassa fusa to a large flat nævus upon the chest of a young infant. In all these cases it answered quite well as an anæsthetic. The child did not waken up for more than an hour and a half after the employment of the caustic, which was used so as to produce a large slough. Its pulse was rapid and weak during the greatest degree of anæsthetic sleep. One of the mice exposed to its influence, and which was removed from the tumbler where the experiment upon it was made as soon as the animal fell over, breathed imperfectly for some time after being laid on the table, and then died.

"Chlorocarbon, when applied externally to the skin, acts much less as a stimulant and irritant than chloroform, and will hence, I believe, in all likelihood be found of use as a local anæsthetic in the composition of sedative liniments.

"In two cases of severe hystericalgia I have injected air loaded with the vapors of chlorocarbon into the vagina. The simplest apparatus for this purpose consists of a common enema syringe, with the nozzle introduced into the vagina, and the other extremity of the apparatus placed an inch or more down into the interior of a four-ounce phial, containing a small quantity—as an ounce or so—of the fluid whose vapor it is wished to inject through the syringe. Both patients were at once temporarily relieved from the pain. The first patient told me her relief at the first application of the anæsthetic vapor was so long that she slept during the following night far more soundly than she had done for weeks previously.

"The injection of the vapor of chlorocarbon into the rectum does not prove so irritating as the vapor of chloroform. In one case it removed speedily pains in the abdomen and back.

"Chloroform vapor, applied by sprinkling a few drops on the hand, and held near the eye, is one of the very best and most sedative collyria in some forms of conjunctivitis, ulcerations of the cornea, with photophobia, &c. I have not yet tried the vapor of chlorocarbon, but perhaps it may answer still better, as less irritant, and almost as strongly sedative.

"I have found ten or twenty drops injected subcutaneously by Dr. Woods' syringe repeatedly relieve local pains of the walls of the chest, abdomen, &c., without being followed by the distressing nausea so frequently the result of the hypodermic injection of preparations of opium and morphia.

"Internally, I have only hitherto tried it in small doses in gastrodynia, where it has the same effect as swallowing a capsule of chloroform.

"The specimen of chlorocarbon which I have used was made by Mr. Ransford, who sent it down to Messrs. Duncan, Flockhart, and Co., of Edinburgh, under the idea that, by a chemical substitution, it might be converted into chloroform, and make a cheap medium for the manufacture of the latter drug. And perhaps I may be permitted here to remark that the quantity of chloroform used is now becoming very great, or possibly might be rendered greater if it could be produced at a still cheaper rate. We have two or three manufactories for chloroform in this city. The chief of these manufactories for it—that of Messrs. Duncan, Flockhart, and Co.—now make upwards of 7000 doses of chloroform every day, counting two drachms as a full dose; they thus send out nearly 2,500,000 doses a year. Are every two million and a half full doses which are used of opium, antimony, aloes, Epsom salts, &c., attended with as little danger and as few ultimate deaths, as these annual 2,500,000 doses of chloroform?"

ART. 154. — *Cases of Poisoning from Eating the Roots of the Ceanothe Crocata.*

By JOHN POPHAM, M.A., M.B., Physician to the Cork North Infirmary.

(*Dublin Quarterly Journal of Medical Science*, Feb., 1866.)

On April 15th, 1865, five boys were brought to the Cork North Infirmary, at three o'clock P.M., with symptoms of poisoning by the *ceanothe crocata*. They saw the plant growing on the banks of a stream, and mistaking it for field carrots, they all began to eat it with avidity. The effect of the poison was soon apparent. They felt a burning in the stomach and constriction of the throat, with nausea and headache, and one of the party fell down on the bank in strong convulsions. Terrified by this, the others left him, in order to get assistance; but when help arrived, he was found lying on his face, in the stream, quite dead. On being brought to the infirmary, between one and two hours after the occurrence, four out of five were relieved from the severe symptoms of the poison by emetics and other remedies, but its sequelæ, such as colic pains in the abdomen, loss of animal heat, giddiness, and depression of spirits, remained till the following day. The fifth boy, named Mulcahy, was long in a very precarious state, passing in the interval before his admission through alternations of tetanic convulsions and insensibility, with loss of speech. An emetic of sulphate of zinc was given him, and succeeded in bringing up a piece of the root; the effect was kept up by draughts of mustard and water, which produced a salutary irritation of the tongue and pharynx, rousing him from the lethargic state, as he struggled violently against their administration. His symptoms were very critical: face flushed up during his struggles; livid, when quiet; pupils dilated, and insensible; breathing slow and labored, interrupted by constant sighing and convulsive cough; pulse eighty-four, feeble, and irregular; both the heart's sounds distinctly audible. In order to test the loss of speech, as all our efforts were unsuccessful, Dr. Popham got his mother to speak to him, but for some time without effect, till at last a dim hazy perception of her familiar voice began to dawn upon his mind, and with a spasmodic exertion he jerked out the word "mamma." After a course of similar entreaties and shakings up, she got him to put out his tongue, but in a very hesitating and tremulous fashion. Considerable hyperæsthesia existed in the soles of the feet, the slightest tickling sufficed to rouse him from stupor; and accordingly when his somnolence waxed very profound, we availed ourselves of it, as a therapeutic agent, and he would invariably withdraw his feet with a growl of impatience. When placed in the sitting posture, his head used to fall forwards or backwards, or to the shoulder, as if the co-ordinating power of the muscles was suspended, or the polar force exhausted by the previous discharge on them of the spinal dynamic matter; but when replaced on the pillow, he tossed his head from side to side, accompanied by jactitation of the hands. As the emetic ceased to act, the stomach-pump was used by Dr. O'Sullivan, house-surgeon, and warm water was thrown in, with the effect of bringing off some imperfectly masticated flakes of the root. Strong coffee was given him, which he took willingly, stopping after each mouthful for a second or two. Other remedies, such as sinapisms to the spine and abdomen, cold affusion to head, friction and warmth to feet, and stimulants were used. Roseola was noticed on the abdomen in patches, such as Devergie describes as being occasionally observed in like cases.

Seven o'clock P.M. — He is in deep sleep, snoring loudly, and moaning, the eyelids spasmodically closed. When slapped on the cheek by the house-surgeon, he bounds up indignantly, stammering out in pitiful remonstrance, "Wisha, don't then," and covers up his head impatiently; he is immediately buried in unconsciousness again. No urine passed.

April 16th. — More conscious, but still much confused in intellect, and vacant in expression; speech returning, but he takes time to answer a question;

pupils less dilated; tongue sore and swollen; pulse 84, rising to 108 on sitting up.

April 17th. — Consciousness has quite returned, but all is a blank since he ate the root up to this morning; temper irritable; tongue raw at tip and edges; he says that the quantity of the root which he swallowed was about the top joint of the little finger; the piece thrown up by the zinc emetic was about half that size. He left hospital next day quite recovered.

ART. 155. — *Remarks on the Exhibition of Charcoal-Powder.*

(*Journal of Practical Medicine and Surgery*, April, 1866.)

The researches of Duval, Brachet, and Barras, and more especially the favorable report presented to the Academy in 1849, by Patissier on a memoir by Dr. Belloc, have firmly established the reputation of poplar charcoal as the most efficacious remedy for flatulent dyspepsia. The *Journal de Chimie Médicale*, in alluding to the circumstances, remarks that the best mode of exhibition of charcoal is to mix the powder with a little pure water; but this assertion as well as the first have been recently questioned in the *Lancet* by Dr. Leared.

This gentleman contends that charcoal, prepared with the most compact timber, is an absorbent far superior to that obtained from the lighter kinds of wood. Moreover, the mode of administration generally adopted is not in his opinion the best. He argues that in order to act satisfactorily in flatulency, the charcoal should be introduced into the stomach as nearly as possible in the state in which it has been extracted from the retort. It should, therefore, be included in capsules so as to be set free in the cavity of the stomach when the gelatine is dissolved. It is objected that although swallowed in hermetically closed capsules, the charcoal must become saturated as soon as it is exposed, but Dr. Leared observes that charcoal does not really absorb moisture, but floats on the surface of the contents of the stomach, and then exercises its full power as an absorbent.

Both these views are open to discussion, and neither appears to be fully demonstrated.

A physical difficulty obviously occurs in the introduction of dry charcoal powder included in capsules into the stomach. The quantity to be exhibited in certain cases may vary from one to four spoonfuls daily, and the number of the capsules must therefore be proportionately large; now, not only is gelatine not a nutritious substance, but it is an aperient, more injurious than useful. If, therefore, it be admitted that it is advantageous to administer the dry powder, it should simply be taken in a wafer.

ART. 156. — *On the Use of Citrate of Soda in Diabetes.*

By M. GUYOT-DANNECY.

(*Journal de Méd. de Bourdeaux*; and *Bull. Génér. de Ther.*, 15 Avril, 1866.)

M. Guyot-Dannecy recommends citrate of soda, in daily doses of a half drachm to a drachm, as a remedy in diabetes. It has been shown by analysis that sugar disappears from the urine when this salt is used with the food instead of common salt. It is also known, since the researches of Wöehler, that the alkaline salts of organic acids, when given in doses too small to produce purgative effects, are absorbed, and, their acid being burned up in the respiratory process, are eliminated by the urine as carbonates. Hence citrate of soda may, without interfering with the gastric acid in the same way as alkaline carbonates, place the system under the influence of an alkaline carbonate, which is indispensable to the interstitial combustion of the glucose of the food. The efficacy of this

remedy, and its superiority to the prolonged administration of bicarbonate of soda, have to be proved by clinical experience.

ART. 157.—*On the Therapeutic Uses of Oxygen.*

By M. DEMARQUAY.

(*Gazette Médicale de Paris*, 14 Avril, 1866.)

M. Demarquay, who has devoted much attention to the use of oxygen inhalation in medicine, says, in speaking of its therapeutic indications, that, in the early stage of phthisis, when there is no fever, and no fear of exciting local action, when the patient is becoming emaciated, and the emaciation is increased by persistent dyspepsia, oxygen may have a salutary influence in modifying the state of the constitution and sustaining the organism. Asthenia is the disease in which oxygen has been given by preference; of twenty-two patients treated by Beddoes, ten were cured, and nine relieved. But the employment of oxygen in asthenia meets with numerous contra-indications. Oxygen renders incontestable service in essential anæmia. It is specially indicated in that form of chlorosis of young girls which is characterized by obstinate anorexia; in the anæmia of convalescents, and in the anæmia, often severe, of newly-delivered females. The inhalation of oxygen is also successful in anæmia arising from hæmorrhage or from fatigue, and is also a very energetic remedy in the debility produced by prolonged suppuration; it stimulates the appetite, sustains the powers of the patient, and enables him to attain to recovery. In diabetes, under the influence of oxygen inhalation, the quantity of sugar contained in the urine is remarkably diminished. In surgery, oxygen stimulates weak and ill-conditioned ulcers, and accelerates the production of granulations in cicatrizing wounds. In senile gangrene, as long as the circulation continues in the artery of the foot, oxygen is, according to the observations of MM. Laugier, Demarquay, and Maurice Raynaud, the only remedy which in advanced cases affords a chance of recovery.

REVIEWS, BIBLIOGRAPHICAL NOTICES, ETC.

I.—*Eighth Report of the Medical Officer of the Privy Council, 1865.* (Blue Book, 1866.)

Mr. Simon's Eighth Annual Report is of peculiar interest. In addition to questions of internal hygiene, it deals with the subject of foreign epidemics, which threaten or have reached these shores, and with the general questions of contagion in its bearings on the public health. The first portion of the Report refers to vaccination; the second, to the distribution of disease in England, and the circumstances by which it is regulated; and the third, to the epidemics which have travelled to this country from abroad—to wit, cholera and yellow fever—as well as to certain considerations on quarantine. These epidemics, and the discussions arising from them, give a special interest to the health-history of 1865, and to Mr. Simon's present Report.

I. *Vaccination*.—Of the progress of public vaccination Mr. Simon is able to report that each inspector bears witness to an improvement in its performance. "It is true," he says, "that great, very great improvement still remains to be made before the public will have nearly realized the advantages which Jenner's discovery can confer; but in the present most unsatisfactory state of the law, even a very little progress deserves mention, certifying, I think, that except for the state of the law, the progress would have been far beyond its present stage."

The belief that the cattle-plague might be controlled by vaccination exercised an extraordinary effect upon the issue of *vaccine lymph* supplied under the authority of the Lords of the Council. Mr. Simon writes:

"Some crude speculations which had been published as to the nature of the prevailing cattle-plague, with still cruder half-promises that vaccination would prove protective against the disease, had, very naturally, filled the cattle-owners of the country with eagerness to provide the suggested security for their herds; and for a while (beginning towards the end of December) the demand for vaccine lymph was insatiable. . . . During the early part of January the applications for lymph (among which it was not generally possible to discriminate the applications of cattle-vaccinators) were so numerous as to endanger the solvency of the establishment. In the previous ten years, including periods when human small-pox had been most widely epidemic, the average number of applications in the month of January had been 932, and the highest number had not reached 1500. But in this January the applications exceeded 3000; among which only 279 could be discriminated as for veterinary purposes; and on the 18th of the month, when this great demand culminated, the total of the one day's applications were as high as 178. Of course, whenever I learnt from the terms of an application that to vaccinate cattle was the object for which the lymph was wanted, my duty was to consider the applicant's claim as subordinate to that of persons who wanted lymph for human vaccination; and, as the lymph-supply at my disposal was not more than enough to provide for the latter purpose, I felt obliged to refuse lymph to the 279 applicants whom I could discriminate as cattle-vaccinators. There must, however, have been many other hundreds of cases where also the applicant's object was to vaccinate cattle, but where this object, being undeclared in his application, could not be discriminated and made a ground for refusal. Under these circumstances there was great reason to fear that the innumerable inconclusive trials which amateurs were making in all parts of the country as to the value of cattle-vaccination, and the consequent enormous waste of vaccine lymph, would cause such an exhaustion of the national lymph-supplies as must seriously derange human vaccination throughout the United Kingdom. Fortunately, the truth as to the uselessness of the proposed cattle-vaccination became known before that great mischief was produced: and the demand for lymph subsided as rapidly as it had risen."

Special means were taken in 1865 to determine the efficiency of the lymph issued, and Dr. Seaton reported quite satisfactorily of its quality.

II. *The Distribution of Disease in England*.—The official inquiries conducted under this head referred chiefly to the house-accommodation of the poor, the effect of sanitary improvements, and the question of injury from infected rags.

In the previous year the state of house-accommodation among the rural poor had been investigated; in 1865 the inquiry was extended to the housing of the poorer population in towns. Both investigations were conducted by Dr. Henry Julian Hunter, and his valuable reports are printed *in extenso* in the appendices to Mr. Simon's Seventh and Eighth Reports. The results of the investigation into the house-accommodation of the poor in towns are thus summed up by Mr. Simon:—

"Large as the inquiry was, and copious as are the resulting details of information, the broad results may be told in these very few words—that, neither against degrees of crowding which conduce immensely to the multiplication of disease, as well as to obvious moral evils, nor against the use of dwellings which are permanently unfit for human habitation, can local authorities in towns, except to a certain extent in some privileged places, exercise any effectual control. Resulting from (or at least attributable to) this powerlessness of the authorities, which only sometimes was supplemented by strained constructions of the law, the evils in question were found very extensively, one or both of them, in operation. Especially they were seen abounding in some of the chief places which were visited; perhaps worst in parts of the metropolis, and in Bristol, Merthyr, Newcastle, Plymouth, and Sunderland. Moreover, though in various other places, including some of considerable importance, the evils were either not found existing, or not in important degrees, it must be remembered that even in these places, or most of them, slight industrial or other local changes could rapidly and irresistibly develop high degrees of overcrowding. Adverting also to my last Annual Report, I may recall the fact, therein abundantly demonstrated, that even in small country towns and villages, where the evil least admits of excuse, overcrowding is often in glaring excess. And thus, speaking generally, it may be said that the evils are uncontrolled in England. . . .

"It is scarcely possible for the better-off class to imagine, where duty has not given them opportunities of practically knowing, what immensity of baneful influence is included in the evils to which I advert; and it may therefore be well for me to show what in practice are the forms in which the evils present themselves. By places 'unfit for human habitation' I mean places in which by common consent even moderately healthy life is impossible to human dwellers,—places which therefore in themselves (independently of removable filth which may be about them) answer to the common conception of 'nuisances';—such, for instance, as those underground and other dwellings which permanently are almost or entirely dark and unventilable; and dwellings which are in such constructional partnership with public privies, or other depositories of filth, that their very sources of ventilation are essentially offensive and injurious; and dwellings which have such relation to local drainage that they are habitually soaked into by water or sewage, and so forth. But beyond these instances where the dwelling would, I think, even now be deemed by common consent 'unfit for human habitation,' instances, varying in degree, are innumerable, where in small closed courts, surrounded by high buildings, and approached by narrow and perhaps winding gangways, houses of the meanest sort stand, acre after acre of them, back to back, shut from all enjoyment of light and air, with but privies and dustbins to look upon; and surely such can only be counted 'fit for human habitation,' while the standard of that humanity is low. Again, by 'overcrowded' dwellings, I mean those where dwellers are in such proportion to dwelling-space that no obtainable quantity of ventilation will keep the air of the dwelling-space free from hurtfully large accumulations of animal effluvium,—cases where the dwelling-space at its best stinks more or less with decomposing human excretions, and where, at its worst, this filthy atmosphere may (and very often does) have, working and spreading within it, the taint of some contagious fever. And as a particular class of cases, in which both evils are combined to one monstrous form of nuisance, I ought expressly to mention certain of the so-called 'tenement houses' of the poor; especially those large but ill-circumstanced houses, once perhaps wealthy inhabited, but now pauperized, and often without a span of court-yard either front or back; where in each house

perhaps a dozen or more rooms are separately let to a dozen or more families—each family with but a room to itself and perhaps lodgers; and where in each house the entire large number of occupants (which even in England may be little short of a hundred) will necessarily have the use of but a single staircase, and of a privy which perhaps is placed in the cellar.”

To ameliorate or remove this state of things, Mr. Simon says:—

“The powers which, in the interest of our laboring population, it is most of all desirable that local authorities should be able and willing to exercise against the evils in question, are, in my opinion, these:—

“i. To deal universally with overcrowding on the basis of its being technically a ‘nuisance,’ and to take as the sole test of overcrowding, the proportion borne by number of occupants to size and ventilation of given space;

“ii. To apply to the so-called ‘tenement-houses’ of the poor, a system of registration and regulation akin to that which is applied to common lodging-houses under the statutes of 1851 and 1853;

“iii. To enforce everywhere against the cellar-dwellings, the restrictions which, under the 67th section of the Public Health Act, 1848, are enforceable in places which are under that Act and the Local Government Act;

“iv. To exercise against premises or parts of premises which by want of access of light or air, or by dampness or through ruinous condition, are rendered unfit for human habitation, the same powers as against premises which by ‘nuisances’ are rendered unfit;

“v. To acquire premises, by compulsory sale, either in order to make needful openings and clearings where ground is too closely built upon, or for other sanitary improvement.”¹

The inquiry into the effects of sanitary improvements, conducted by Dr. Buchanan, is not yet completed.

The question concerning the alleged occasional conveyance of morbid contagia in the various stuffs which form the staple of the rag-trade was made the subject of detailed inquiry by Dr. Bristowe. The results are thus summed up by Mr. Simon:—

“It is matter for congratulation that the results there recorded are almost entirely negative, and such, I think, as fully to establish that the rag-trade does not play any considerable part in the distribution of contagions of disease. More than this cannot, I apprehend, be maintained. When regard is had, on the one hand, to the sources of rag-supply, and on the other hand to the known properties of certain contagia, no one can suppose that paper mills do not sometimes receive rags with infective material among them; and it would not have surprised me, if cases more or less authentic had been reported, where not only small-pox and other fevers, but also syphilitic inoculations, had on particular occasions been ascribed to the agency of foul rags. It will be observed, however, that, except in regard of small-pox, no such accusations came under the inspector’s notice; and the instances wherein it was with some show of probability alleged that small-pox had been introduced by rags cannot be deemed to represent, in a vaccinated country, any serious amount of public danger.”

III. *Foreign Epidemics.*—The year 1865 is remarkable for the extraordinary spread of pestilential diseases which occurred. First, a most deadly outbreak of epidemic cerebro-spinal meningitis, a disease hardly known even by name in this country, broke out in Northern Europe. Next, cholera again began to migrate from the East and once more extended its ravages to Europe. And while this pestilence was rapidly travelling westwards, the most dreaded of tropical plagues effected, for the first time in history, a lodgment upon our own coast. Finally, during the summer, the most malignant of bovine plagues, after more than a century’s interval, revisited our herds.

Dr. J. Burdon Sanderson investigated the outbreak of epidemic cerebro-spinal meningitis in Northern Europe, and an abstract of his report, published in anticipation of Mr. Simon’s report, was given in the forty-second volume of

¹ The first, second, and third suggestions have since been carried out in the “Sanitary Act” for 1866.—Ed.

the *Half-Yearly Abstract*. The inquiries into the spread of cholera and yellow fever were conducted by Professor Parkes, Dr. Buchanan, and Mr. Radcliffe, and their reports (included in the appendix to Mr. Simon's Report) will require separate consideration.

This outbreak of cerebro-spinal meningitis was preceded by rumors of a fatal "Siberian plague" advancing westward. Upon this rumor Mr. Simon takes occasion to remark:—

"Terrible inflictions have before now come to us by that line of transit, and cholera is not the only pestilence which has thus come. Apparently it was through Russia, and perhaps as a 'Siberian plague,' that, five centuries ago, the Black Death came to England. That, according to the best authorities, the Black Death, under the name of Pali Plague, still lives, and from time to time spreads, in the western and northern parts of India, and, when last told of, was even high in the Himalaya; that, if its infection passed the hills, little story would come to us of how it filtered through the sands of nomad and other savage life; but that presently it might be on the confines of Russia, and then again suddenly of the gravest European interest;—these are considerations which, in the minds of persons who know the facts of the case, check all disposition to treat rumors of 'Siberian plague' with indifference."

Mr. Simon believes, from information supplied to him by Dr. F. J. Brown and Dr. Clapton, that cerebro-spinal meningitis has been present for some time past in small amount in this country.

Epidemic cholera appeared only in two parts of England in 1865—at Southampton, and at Theydon-Bois, a small hamlet in Essex. Professor Parkes's report on the outbreak at Southampton we shall subsequently refer to. Mr. Radcliffe investigated the facts of the remarkable outbreak at Theydon-Bois, and the following is Mr. Simon's abstract of, and opinions on, the circumstances disclosed by his Report:—

"It is a question whether from Southampton, or in any more direct way, the morbid influence may in August or September have reached Weymouth or Portland or Dorchester. I have no proof that any such infection took place, but accidentally I am informed that a gentleman from a distance who early in August was spending a week in Weymouth, and visiting both Portland and Dorchester, contracted during that week a diarrhoea which on his return home developed to severe cholera; and in September there occurred, in the neighborhood of London, the following events, which give peculiar interest to the question:—Mr. G. and his wife, inhabitants of Theydon-Bois, near Epping, had been lodging at Weymouth for seventeen days from the 8th September, had visited Portland on the 22d, and Dorchester on the 23d, and returned home on the 25th. On the evening of the 23d Mr. G. had been seized with diarrhoea, sickness, and cramps, which continued more or less through the next day, and left him still unwell on the morning of the 25th. He, however, performed his journey to Epping with his wife. She, during the journey, began also to complain of abdominal discomfort; and this, after her return, developed, with gradually increasing diarrhoea, to cholera, of which (in its secondary fever) she eventually died on the 11th October. On the 30th September (while the last-named patient was still in collapse) one of her daughters, aged eight, was seized with cholera, and in a few hours died. That same night, a serving-lad in the house was seized with cholera, and barely escaped with his life. On the 2d October the doctor who was attending them died of cholera after ten hours' illness. On the 3d, another daughter of the house, aged sixteen, passed into cholera, but eventually, after some consecutive fever, recovered. On the 5th, a maid-servant got diarrhoea which, though relieved for the time, relapsed and became choleraic on the 8th, and she, after some promise of recovery, fell into secondary fever, with which she eventually died. On the 5th also a laborer who worked on the premises, but lived apart, was taken with diarrhoea, which passing on to cholera and collapse, killed him next day but one. On the 6th, the head of the house, the Mr. G. who had suffered at Weymouth, and had ever since had relaxed bowels, got a very acute new attack, and died after fifteen hours. On the same day his son was attacked with diarrhoea, and next day was in collapse, but rallied, and finally got well. Also on the 6th, the grandmother of the house was similarly attacked; and she, though she emerged from collapse, eventually died on the 14th. On the 10th, a woman, living near by,

whose only known connection with the above cases was that on the 8th she had assisted in laying out the dead body of the above-mentioned laborer, was taken with choleraic purging, which soon led to collapse, and next day to death. Thus, within a fortnight, in that one little circle, eleven persons had been attacked with cholera,—mother, father, grandmother, two daughters, son, doctor, serving-lad, serving-maid, laborer, and countrywoman; and of these eleven, only three survived—the son, a daughter, and the serving-lad. Later, in the countrywoman's family, there was another fatal case. It cannot well be doubted but that the exciting cause of this succession of events was, in some way or other, the return of the parents from Weymouth—of the father with remains of choleraic diarrhoea still on him, of the mother with apparently the beginnings of the same complaint. But this is only part of the case, and the remainder teaches an impressive lesson. All drinking-water of the house came from a well beneath the floor of the scullery! and into that well there was habitual soakage from the water-closet. Whether, in intimate pathology, there are any essential differences between the cholera which kills on a large scale, and the cholera which kills single victims, is hitherto so entirely unknown, that it would be idle to discuss, as a separate question, whether the G. illness, contracted at Weymouth, and carried to Epping, was 'epidemic' or 'sporadic,' 'Asiatic' or 'English' cholera; and, as above stated, I cannot prove it to have been an offshoot of the Southampton epidemic, or otherwise of Mediterranean origin. Certain, therefore, only is this:—that, from the time when Mr. and Mrs. G. returned ailing to their home, the discharges which passed from their bowels gave an additional and peculiar taint to the already foul-water supply of their household, and that henceforth every one who drank water in the house drank water which had in it the ferment of decomposing diarrhoeal matters."

Of the outbreak of yellow fever at Swansea in September, 1865, Mr. Simon has much to say of moment. He describes it as being, in one respect, an event of extreme importance:—

"That England is not insusceptible of this tropical infection," he says, "but that (at least under favoring circumstances) yellow fever can seriously damage a port-side population in England: this truth was conclusively discovered in Swansea at the cost of fully fifteen lives. Doubtless the atmospheric conditions under which the proof was given were conditions not habitual to our climate. Especially the heat was almost tropical. But no one can predict of any given year that its summer shall not produce the conditions which characterized the summer of 1865; nor can any one say that, if yellow fever infection should again begin to operate on our population, the mischief may not infinitely exceed those limits within which on the recent occasion it was confined. And accordingly, for the purposes of the hygienic police, the outbreak to which I refer must be deemed to have given a most impressive warning."

We cannot follow Mr. Simon in the different considerations arising out of this event as regards the public health, but the following observations on the communicability of yellow fever sum up the more important of his opinions concerning this disease:—

"I do not pretend to say that yellow fever is absolutely non-contagious in this country: non-contagious, I mean, in the sense in which typhus and small-pox are contagious; much less do I pretend to say that it is absolutely non-contagious in climates hotter than our own. This doctrine, however, even in the extremest form in which it can be stated, is not only held by many persons of high authority who have studied the disease in its transatlantic strongholds, but is certainly rendered probable by facts which we have observed in Europe. . . . Quite unquestionable, however, is the evidence that the infection of yellow fever accompanies marine traffic from land to land; and in proportion as the belief is untenable that the disease is personally contagious, in such measure the alternative must be accepted—that infectiveness is in the body of the ship. That yellow fever is a malarious rather than a truly zymotic disease, is a disease of the nature of ague rather than a disease of the nature of typhus,—that the ship which spreads infection does so irrespectively of the persons who are in it, whether they be healthy or diseased,—that the ferment of a local and impersonal infection clings to the ship from shore to shore, and breeds new malarious action in any congenial soil to which it comes,—that the exceptional and contingent power of persons to spread the disease is generally but a very scanty and transient power, not belong-

ing particularly to the sick, but to the healthy in common with them, attaching perhaps mainly to their dress, and equally predicable of all absorbent things which the atmosphere of the ship has imbued; this, it seems to me, is the doctrine of the yellow fever which tallies best with our present knowledge of facts. Without pretending to dogmatize theoretically on a subject which no doubt has its difficulties, I am strongly of opinion that preventive measures based upon that doctrine are, under present circumstances, amply sufficient for the practical purposes of this country. If it were, as far as practicable, provided that, during summer weather, ships which might reasonably be suspected of yellow fever infection should not come into close relation with shore or with other shipping till they, and all things in them which might carry infection, had undergone thorough disinfection, this, in my opinion, would probably suffice to prevent in future any such unfortunate occurrences as the late outbreak of yellow fever at Swansea."

The importance of these observations in reference to the recent repeated introduction of yellow fever into Southampton Water needs no comment.

Mr. Simon's examination of the question of quarantine is of the greatest interest. Its tendency may be illustrated by one quotation, full of significance and conciseness:—

"Subject to one qualification," he writes, "which is not an important one for the present argument, it may, I think, be accepted as certain that quarantine, conducted with extreme rigor, and with the precision of a chemical experiment, will keep cholera out of any part of Europe in which the extremely difficult conditions can be absolutely fulfilled, and thus, if I speak to the dry question of medical practice, I have no hesitation in saying that England ought to resist cholera by quarantine. On the other hand, though I cannot pretend to discuss with any kind of authority the non-medical aspects of the question, it would be mere pedantry for me to ignore that facts which are of common notoriety, and considerations which are of common sense, conflict with that medical conclusion. A quarantine which is ineffective is a mere irrational derangement of commerce; and a quarantine, of the kind which ensures success, is more easily imagined than realized. Only in proportion as a community lives apart from the great highways and emporia of commerce, or is ready and able to treat its commerce as a subordinate political interest, only in such proportion can quarantine be made effectual for protecting it. In proportion as these circumstances are reversed, it becomes impossible to reduce to practice the paper plausibilities of quarantine. The conditions which have to be fulfilled are conditions of national seclusion; and the fulfilment of such conditions by England would involve fundamental changes in the most established habits of the country."

Finally, it is requisite to mention that Mr. Simon offers some observations on the recurrence and disappearance of epidemic diseases, and the probability of cosmical influences playing a part in those phenomena, which deserve attention.

II. — *Report on the Sources and Development of the present Diffusion of Cholera in Europe.* By Mr. JOHN NETTEN RADCLIFFE, Honorary Secretary of the Epidemiological Society. (*Eighth Report of Medical Officers of Privy Council, 1865.*)

This is an elaborate report prepared for the Privy Council, chiefly from official documents, on the diffusion of epidemic cholera to the close of 1865, and on the source of that diffusion. The report is divided into four sections. The first deals with the origin of the outbreak, the second with its spread, the third with the prevalence of the disorder in different localities, and the fourth contains a comparison of the recent with previous world-wide migrations of cholera. The first clearly ascertained fact of the epidemic is the arrival of two ships at Jedda in March, 1865, carrying pilgrims for Mecca from Singapore. Cholera prevailed on board these ships after they had touched the South coast of Arabia, where the malady is asserted to have been prevailing at the time. At the beginning of 1865 cholera was epidemic in the Bombay Presidency, and during that year the city of Bombay suffered from a severer outbreak than had been

experienced since the "great cholera year," 1850. The facts related by Mr. Radcliffe render it in the highest degree probable that early in 1865 cholera spread along the south coast of Persia and was conveyed to the south coast of Arabia (probably by means of coasting craft), and so reached the shores of the Red Sea; and that the two ships which first reached Jedda infected with cholera were not the sole sources of the infection of Mecca. About the 2d of May cholera broke out violently at Mecca, and at the same time it had begun to show itself in Jedda. On the 21st of May the captain of the first ship, carrying returning pilgrims and his wife, were attacked with cholera at Suez. On the 22d of May a case occurred among a body of returning pilgrims at Damanhour, and on the 2d of June a case was recognized among the inhabitants of Alexandria in communication with the returning pilgrims. The presence of cholera in the latter city was officially recognized on the 11th of June, and between that date and the 14th foul bills of health were issued to vessels leaving the port.

The following is Mr. Radcliffe's account of the spread of the epidemic:—

"On the 11th of June, 1865, the existence of epidemic cholera in Alexandria was officially recognized, and between that date and the 14th vessels leaving the port carried foul bills of health. Before the close of the month the disease had broken out in an epidemic form in Cairo, the principal towns on the Delta of the Nile (Damietta, Rosetta, Tanta, &c.), several villages on the Isthmus of Suez, and extended to Minieh, Middle Egypt. On the 20th of the same month cholera appeared at Valetta (Malta), on the 24th at Smyrna, and on the 28th at Constantinople.

"At the beginning of July the epidemic showed itself almost contemporaneously in Jaffa and Beyrout, on the east coast of the Mediterranean, in Valencia on the West, and in Ancona on the Italian shore of the Adriatic. The town of Dardanelles would appear to have been attacked about the same time. On the 19th of July, the first case of cholera occurred at Gibraltar, and on the 22d in Barcelona. The disease was officially recognized as present in Marseilles on the 23d of the month;¹ and it appeared at San Severo in the Capitanata (South Italy) on the 25th. Towards the close of July, Cyprus was infected, and several cases of the epidemic occurred at Delos.

"During the first week of August cholera broke out at Damascus, Trebizond, Kustendji, Sulina, and Tultcha (on the Danube). On the 6th the epidemic appeared at Odessa, and on or about the 11th at Aleppo. Kertch was attacked on the 17th. About the same time the disease showed itself at Madrid, Palma (Balearic Isles), and Brusa, extended (so far as can be determined by accessible data) to Reni, Brailov, and other towns of the Danubian principalities, attacked Toulon, and spread widely in the Capitanata. During the month the epidemic was probably also prevalent in the Caucasus.

"At the beginning of September the pestilence appeared at Alicante and Seville, and widened largely its area of prevalence in Spain, Southern France, and Italy. About the middle of the month it broke out in Paris and Bagdad; and on the 24th a death from the disease was registered at Southampton, the attack dating from the 17th. From the 24th to the 29th scattered cases occurred in Algiers and Prosecco (near Trieste), while an isolated and somewhat severe irruption took place at Altenburg, in Germany (twenty-four miles south of Leipzig), and a singularly virulent group of cases occurred at Theydon-Bois (Epping), Essex. On the 27th, Berdichev, in the Government of Kiev, Russian Poland, was attacked by the epidemic; and on the 28th San Giovanni a Teduccio, in the vicinity of Naples.

"Early in October cholera manifested itself in Kherson and Jerusalem, and several cases of the disease were reported at Elvas and Oporto. During the first week of the month, Naples came under the influence of the epidemic. On the 12th it appeared at Taganrog, on the sea of Azov; on the 28th at Guadeloupe, one of the Leeward Islands; on the 28d at Mosul, on the Tigris, 216 miles N.N.W. of Bagdad; and on the 26th, in a slight form, at Filurina, in the district of Monastir, European Turkey. In the course of the month the disease spread in the Russian provinces of Kiev, Podolia, and Volhynia.

"On the 3d of November a steam-vessel from London, viâ Havre, carrying passengers, reached New York harbor with several cases of cholera on board.

¹ It is now known that the first case occurred in Marseilles on the 18th of June. — Ed.

"In December the malady was still prevalent in the south-western provinces of European Russia, and in some parts of France and of Saxony conterminous with the Bavarian frontier.

"The following is a summary of the dates when the epidemic first appeared in the more important localities so far as these are known:—

- June 2d. Alexandria (officially recognized, 11th).
- " 17th. Cairo.
- " 20th. Malta.
- " 24th. Smyrna.
- " 28th. Constantinople.
- July 1st. Jaffa.
- " " Beyrout.
- " " Valencia (beginning of the month).
- " 8th. Ancona.
- " 19th. Gibraltar.
- " 22d. Barcelona.
- " 23d. Marseilles (officially recognized).
- " 25th. San Severo (South Italy).
- Aug. 1st. Damascus.
- " " Sulina.
- " 2d. Trebizond.
- " 5th. Kustendji.
- " 6th. Odessa.
- " " Tultcha (Danube, prior to 8th).
- " 10th (28th O. S.). Borchy, district of Balta, government of Podolia (Russia).
- " 11th. Aleppo (officially declared).
- " 15th. (?) Madrid.
- " 16th. Brusa.
- " 17th. Kertoh.
- " 26th. (?) Toulon.
- " " Palma (about this date).
- Sept. Alicante } (beginning of month).
- Seville }
- " 11th. San Roque.
- " 12th. Acqui }
- " " Melazzi } Piedmont.
- " 17th. Southampton (first death 24th).
- " 18th. Puteaux (near Paris).
- " 24th. Algiers.
- " 25th. Bagdad (earliest recorded death).
- " 26th. Theydon-Bois, Essex.
- " 27th. Berditshev (government of Kiev).
- " 28th. San Giovanni a Teduccio, near Naples.
- " 29th. Prosecco (near Trieste).
- Oct. 1st. Novomirgorod, &c., government of Kherson (Russia).
- " " Jerusalem }
- " " Elvas } (first fortnight).
- " " Oporto }
- " 6th. Naples.
- " 12th. Taganrog.
- " 20th. Guadeloupe.
- " 26th. Filurina (Monastir).
- Nov. 8d. Ship "Atalanta," from London, viâ Havre, entered New York harbor with cases of cholera on board.

Mr. Radcliffe gives a careful account of the circumstances under which the earliest cases of cholera occurred in several of the centres of epidemic prevalence, and of the degree of its prevalence in different localities, rigidly adhering to facts without comment. Further, he gives a condensed history, of much value, of the characteristics, chronological and geographical, of former general epidemic extensions of the malady, and he makes the following comparisons (among others) of the recent with former epidemics:—

"For the first time in the history of epidemic cholera, Europe has been invaded by the disease from the south.

"In the outbreak of 1829-32, the epidemic spread from the north of Persia to the Russian provinces west of the Caspian Sea, and by way of the Caspian itself to Astracan. Then extending northwards along the Volga, the disease was disseminated in Central and Northern Russia, and passing westwards through the provinces of the Don Cossacks and Ekaterinoslav, and along the northern coast of the Sea of Azov and Black Sea, it attacked the south-western provinces of Russia. Next advancing through Moldavia, it reached the banks of the Danube, and ascending this river, it entered Central Europe. Southern Europe was not attacked until four years later.

"In the outbreak of 1845-48, the epidemic followed almost the same route in its invasion of Europe. Advancing from Persia through Georgia and the Caucasus, it attacked in succession Tiflis, Keylear, and Astracan. Thence traversing the provinces of the Don Cossacks and Ekaterinoslav on the southern tract of the first invasion it radiated into Northern, Central, and Southern Russia, extended on the south to the provinces on the Danube and Turkey, and again penetrated Central Europe along the course of the river.

"In the third great European outbreak the epidemic did not advance from the east, but was developed from foci already existing in several parts of the Continent.

"In the present outbreak Southern Europe was first attacked by the epidemic; and the lines of invasion are to be traced, spreading fanlike from Alexandria to Constantinople on the east, and Southampton on the west.

"Great Britain suffered from each of the three great epidemic extensions of cholera in Europe. In every instance of the disease, at the time prevailing on the west coast of the Continent, appeared first in ports on the east coast of this kingdom. In the present epidemic the disease has manifested itself first at Southampton, on the South coast, the port which maintains the closest and most rapid intercourse with Alexandria.

"During the epidemics of 1829-32 and 1845-48, Syria was invaded from the east through Koordistan and Bagdad. In the present outbreak the province was attacked in the first instance through the coast towns in regular communication with Alexandria, and subsequently by way of Damascus, shortly after the return of the Mecca caravan.

"2. In the epidemic of 1829-32 Astracan was attacked on the 20th of July, 1830; Hamburg in September, 1831; Sunderland on the 26th of October the same year, and New York in June, 1832.

"The epidemic occupied nearly fourteen months, from the time of its entrance into Europe, in traversing the Continent; fifteen months in reaching Great Britain; and two years, less one month, in arriving on the North American coast.

"In the epidemic of 1845-48, the disease reached Astracan in June, 1847; Hamburg in September, 1848 (crossing the Continent of Europe in nearly the same period of time as in the former epidemic); England in the same month (Horsleydown, 22d of September, 1848); and New Orleans on the 2d of December of the same year, nineteen months after the appearance of the epidemic on the eastern border of Europe.

"In the present epidemic the first case of cholera was recognized in Alexandria on the 2d of June, 1865. Eighteen days afterwards (20th June) the disease appeared in Malta; twenty-two days afterwards (24th June) in Smyrna; and twenty-six days afterwards (28th June) in Constantinople. In five weeks (8th July) Ancona was attacked, and in seven weeks (23d July, officially recognized) Marseilles. On the 17th of September, the first case of cholera occurred in Southampton; and on the 20th of October the epidemic broke out in Guadeloupe.

"In less than five months from the appearance of cholera in Alexandria, and about six months from its outbreak at Mecca, the disease had spread from the coasts of the Euxine to the western hemisphere, a rapidity of progress unparalleled in previous epidemics."

In an appendix, Mr. Radcliffe discusses the effects of Hindoo pilgrimages in fostering and disseminating cholera; and gives a wellnigh exhaustive account of the pilgrimage to Mecca.

III. — *On the Outbreak of Cholera in and about Southampton in September and October, 1865.* By Professor PARKES, M.D., F.R.S. (*Eighth Report of Medical Officer of Privy Council, 1865.*)

This report is of singular interest. It is an exhaustive examination of the circumstances under which cholera appeared in Southampton, in 1865 — the first outbreak of the disease in this country during the recent epidemic. Professor Parkes describes in detail the different local outbreaks, and he then proceeds to discuss the diagnosis and origin of the disease, and to recount the preventive and curative measures adopted. He examines the most important question, that of origin, in reference to importation from the Mediterranean, the agency of wind, of meteorological conditions, or a peculiar epidemic constitution, and he sums up the result of his inquiry thus:—

“But what now is the conclusion of this inquiry? If I have exhausted all the reasonable or possible modes of origin, and I cannot see there is more to be considered, the result is this:—the spontaneous development from usual meteorological, with or without bad local sanitary conditions, must be rejected; the origin by an unknown epidemic influence, alone or coinciding with local conditions presents formidable difficulties, even if we cannot quite reject it. The origin by importation is deficient in precision of evidence.

“Still, both from its own evidence, and from the impossibility of indicating another satisfactory mode of origin, the importation seems to me by far the most likely cause. There is at any rate a coincidence, and one which could scarcely be accidental. In only one part in all England did vessels arrive having had cholera deaths on board shortly before, and in reality having cholera on board when they entered the port. Then in that port there occurred shortly afterwards other cases of cholera, and if these were scattered, so also must have been the seeds of the disease if they were carried by the persons suffering from cholera or slight cholera, landing from the vessels, and dispersing to their homes in and round Southampton, or if the germs of the disease in the atmosphere drifted from the ship, and here and there found the necessary conditions for existence and propagation.

“At any rate, this is really the only tangible point, as far as I can see, and it has the additional chance of being true, that it is in accordance with the fact that outbreaks of cholera have so frequently happened in towns after the arrival of persons from affected places. Those who know the history of cholera are aware how many instances have proved the truth of the rule.

“The outbreak in Southampton resembled also many other outbreaks in its main features. Even admitting importation, it has often proved most difficult to trace the connection of the early cases, and often also the cases which have occurred some time after the introduction.

“This difficulty is certainly much greater in cholera than in the cases of other specific and contagious diseases. Admitting that there is occasional difficulty even in small-pox, and still more in scarlet fever, and still more probably in typhoid fever, yet the ordinary rules of contagion are observed with much greater ease than in the case of cholera. The susceptible persons nearest to those affected or having intercourse with them, or being in some way most exposed to the putrefying portions of the body coming from the sick, suffer first; then the disease spreads to others, but still can be traced until its steps cross each other too often to remain distinct.

“But in cholera it is only in a few cases that this can be traced, and this difficulty, in fact, has been felt by almost all the observers who have inquired into the origin of cholera, both in India and Europe. Still, though, as in London in 1848, and in Southampton in 1865, it seems impossible to indicate the exact entrance, or the connection of the early cases with some prior case, the apparently certain knowledge we now have that the discharges will propagate the disease, and that these discharges will retain that power for a considerable period, may explain some of the apparently capricious and unaccountable outbreaks of cholera.

“It may be, however, that greater care, and an earlier and more stringent inquiry into the first cases would clear this up, and the obscurities may have their origin in the inquirer, rather than in the problem under examination, though I cannot but believe there is something in the spread of cholera which no explanation hitherto suggested has yet touched.”

IV. — *On the Outbreak of Yellow Fever at Swansea.* By Dr. GEORGE BUCHANAN. (*Eighth Report of Medical Officer of Privy Council, 1865.*)

On the 9th September, 1865, a ship, the *Hecla*, which had sailed from Cuba on the 26th July with cases of yellow fever on board, entered Swansea Harbor. When she came to her moorings, one of her seamen was dying and two were recovering from the disease. She landed her sick immediately, commenced to discharge her cargo, and remained stationary until the 28th. Meanwhile, from the 15th September, six days after her arrival, to the 4th October, six days after her removal from her moorings, twenty of the inhabitants of Swansea were attacked with yellow fever (a phenomenon unparalleled in the experience of England), besides others affected less definitely or more mildly. The people attacked were not scattered indiscriminately over the whole town, but only in definite local relations to the ship. And at Llanelly, three of the crew of a small vessel which had laid two days alongside the *Hecla* at Swansea, also fell sick of the fever. During the outbreak an almost tropical heat, a rare circumstance, prevailed at Swansea. The circumstances attending the dissemination of the disease in Swansea are thus commented upon by Dr. Buchanan:—

"As to the connection of the disease with the *Hecla*, the evidence appears conclusive, (a) From the fact that there had been for months no other vessel in the harbor that had had any yellow fever on board: (b) From a consideration of dates. A vessel which has acknowledgedly lost part of its crew from yellow fever, and which lands a man on her arrival to die of that disease in a few hours, enters Swansea on September 9th, and remains there till September 28th. From September 15th, six days after her arrival, to October 4th, six days after her departure, cases of a disease previously unknown at the port break out, with the symptoms and fatality that mark it for yellow fever. The vessel leaves the dock on September 28th, and takes up a distant position near the harbor mouth, and from October 4th to October 23d, the date of the report, there is no fresh case; (c) The locality where the disease occurred again connects it with the *Hecla*. In a town of 30,000 people, some 18 cottages are scattered on a little low-lying island, to which the vessel importing yellow fever comes, and on which she discharges her cargo. Of the 22 cases of the fever (excluding doubtful cases of it) that subsequently break out, 11 occur in persons resident in the little island, 5 in persons who, living elsewhere in the town, have their daily work on the island, 8 in men occupied about shipping in the North Dock, and only two cases occur among the whole population of the large town who had no direct connection with the island. But even these two cases occur in persons living within 150 yards of the ship, across the dock, and living in the next house but one to the cottage where the man died who was taken from the vessel on her arrival."¹ "Granting the original connection of the disease with the *Hecla*, it must also be granted (see tabular statement of cases) that in the great majority of instances the disease occurred in the individual without communication with any previous sufferer. But how does the evidence stand about its having been communicated in any case or cases by personal contagion? On the one side in favor of such contagion are to be alleged the facts, (a) that in one house on the island five persons of one family (Mahoney) were attacked in succession with more or less positive yellow fever, and that Mrs. Williams had had the opportunity of personal contagion from the corpse of a neighbor; (b) that in another house, at a distance from the island, where a man (Colwell) died of the fever, another man (Jones) was also attacked; (c) that two cases (Hickey) originated in the immediate proximity of the house where the original imported case (Saunders) died; (d) that one of the medical men, Dr. Griffiths, had an attack simulating yellow fever after attendance on a case. But to each of these considerations there is a drawback that greatly destroys their apparent value, for (a) each of the Mahoneys and Mrs. Williams were exposed by residence near the ship to

¹ Of the seven doubtful cases five resided on the island; one was occupied in a vessel alongside the *Hecla*; and the remaining one (one of the most questionable of all the doubtful cases) alone had nothing to do with the docks or island.

the same direct infection from her; (b) Jones, as well as his fellow-lodger, had worked on the island at such an interval before as would just make the period of incubation observed in other cases; (c) the Hickeys lived within a short distance from the ship, though away from the island, or if they did get the disease from Saunders, being the only people who received the disease from another, the fact that Saunders came direct from the *Hecla*, and might have brought some of her atmosphere with him, separates this case from all others of apparent personal contagion; and lastly, (d) Dr. Griffiths's case is weak, inasmuch as his symptoms were, in some essential features, unlike those of slight cases of yellow fever, and also inasmuch as there was with him no exposure till two days before his attack, a period below the incubation time of the disease as observed in Swansea.

"On the other side, the evidence tending to negative personal contagion is about as strong as such evidence can by its nature ever be. Persons exposed to the fever-producing influences about the docks lay sick of yellow fever in various parts of the town: Norman at Clifton-row; Bowen at Fynonne-street; Margaret Williams at Gower-place; Jesse at Greenfield-street; Thomas at Sketty; Lilley at Clifton-hill; Colwell and Jones (for it is fair to quote them on this side the question) at Lower Rodney-street; Wilkins at Bethesda-terrace; Mrs. Wilson at Mansell-street; and Nathaniel Williams at Powell-street. Moreover, Slocum died at Llanelly, and Stapleton was sick at Frampton-on-Severn, and no extension of the fever occurred at either of those places. Thus that there were twelve centres from whence the disease, if it had been communicable from person to person, had the opportunity of spreading, and many of these localities were perfectly adapted for the spread of contagious diseases; yet in no single instance out of all these did any person (whose business did not lead them to the infected neighborhood of the docks) get yellow fever or any disease at all simulating it. The conclusion then appears indisputable, that if the fever was communicable at all by personal contagion, it was so only in an extremely feeble degree. If it had behaved like any of the more contagious fevers, such as small-pox, measles, typhus, or relapsing fever, it is quite certain that no such account as this could be given. The contrary belief, that infection was received by each person severally, direct from the *Hecla*, is further rendered very strong by the fact that after the removal of the *Hecla* (and allowing for the incubation period in persons already infected) no fresh attack whatever occurred on the island or elsewhere, although the same climatic conditions persisted for some time after."

Dr. Buchanan's report of this remarkable outbreak leaves nothing to be desired.

. — *Statistical, Sanitary, and Medical Reports: Army Medical Department.* Vol. VI. for the Year 1864. (Blue Book.)

The Sixth Annual Report of the Army Medical Department, just published, refers to the health of the forces in 1864. It presents an elaborate account of the sickness, mortality, and invaliding of the troops, and of the sanitary condition of the principal stations at home and abroad, during that period; and is enriched with numerous valuable medical and surgical reports. In addition, anticipating the report of 1865, it contains accounts of the outbreaks of cholera in Malta and Gibraltar during the latter year, as well as on board the ship *Renown*, on her passage from Gibraltar to the Cape of Good Hope. These reports (that respecting Malta being written by Surgeon Leith Adams and Assistant-Surgeon F. H. Welsh; respecting Gibraltar, by Deputy Inspector-General Dr. Rutherford; and in reference to the ship *Renown*, by Deputy Inspector-General Dr. Lawson) give a special and immediate interest to the present volume, from the important light which they throw upon the propagation of the prevailing epidemic of cholera, and upon the practical questions submitted to, and the decisions arrived at by, the International Sanitary Conference. By hastening the publication of these reports the Army Medical Department has done a great service to the public, and a deserved justice to the reporters.

The health of the total force, abroad as well as at home, was higher in 1864 (as measured by the sickness and mortality) than the average of the four pre-

ceding years. The annual ratio of sickness per 1000 strength was 11.19, and of deaths 16.13; while during the four years 1860-63 the annual ratio of sickness per 1000 strength was 11.19, and of deaths 16.13; while during the four years 1860-63 the annual ratio of sickness per 1000 strength had been 12.16, and of deaths 17.57.

Although the returns for the total force show a higher state of health, in five of the twelve chief commands, the sickness or mortality during 1864 was in excess of the average of the four previous years. In the United Kingdom the admissions were 44 per 1000 under, and the deaths 75 per 1000 above, the average of the four years 1860-63. The difference, Dr. Balfour observes, was "most marked in the admissions for miasmatic diseases, and in the mortality by diseases of the circulatory system. This increase in the ratio of deaths in 1864 has not, however, been confined to the army; as the Registrar-General's returns show the mortality of the general population of England and Wales to have been 1.71 per 1000 in excess of the average of the ten preceding years, and to have been higher than in any year since 1849, when cholera prevailed as an epidemic throughout the country."

A formidable increase of the mortality in British America—the annual ratio per 1000 strength being 23.90 in 1864, as compared with 9.18 in the four preceding years—was owing chiefly to a serious outbreak of yellow fever among the troops stationed at Bermuda. A detailed and peculiarly interesting and valuable report of this outbreak, by Deputy Inspector-General Barrow, was published in the Fifth Annual Report of the Department.

An excess of deaths in the West Indies arose from an unusual mortality in the Windward and Leeward Command, particularly in British Guiana.

In Ceylon the prevalence and fatality of continued fevers, dysentery, diarrhoea, spasmodic cholera, and respiratory disorders raised the mortality above the average of the preceding fourteen years; and the war in New Zealand caused an excessive sickness and death-rate in the Australasian Command.

The Report of the Sanitary Branch of the Department shows a steady and continuous improvement in the hygienic condition of the stations occupied by the army at home and abroad. It also describes the numerous defects in many stations which still require to be remedied. In addition to the reports on cholera already mentioned, and which are included in this section of the Department's Report, it contains an instructive medico-topographical Report on Japan, by Surgeon G. P. M. Woodward, 2d Battalion 20th Regiment; a narrative of the outbreak of cholera on board the steamship *England*, by Deputy Inspector-General Barrow; Professor Parkes's accustomed valuable annual review of the progress of hygiene; and other papers of interest.

Among the incidental subjects of the Sanitary Report, an ingenious field hammock, lately designed by Captain M'Gwire, of the Royal Regiment, and tested practically last year at the Curragh Camp, deserves particular mention. In a report on this article of field equipment, Staff Surgeon-Major Dr. Ord Mackenzie concludes that the advantages of the hammock, in a sanitary point of view, are simple and clear. "1. A hammock," he writes, "is under any circumstances more comfortable than the ground, wet or dry. 2. The soldier carries his bed with him, and can pitch it anywhere, under cover or not. 3. The bed can be pitched in a few minutes. 4. The occupant is always off the ground. 5. The equal distribution in either case economizes space, and gives each man a clear berth. 6. The heads of the men are considerably raised above the draught from under the curtain of the tent." The hammock is easily carried by the soldier himself as part of his field equipment, the extra weight over the ordinary field blanket being under three pounds; and Dr. Mackenzie believes that its use is practicable, simple, and likely to be most serviceable.

The report of the Medical branch of the Department contains many interesting medical and surgical papers, amongst which an elaborate continuation of Deputy Inspector-General Lawson's observations on so-called "pandemic waves" has special prominence. Amongst the contributors are Staff Surgeon Dr. P. Davidson (who discusses the Cestoid Worms), Dr. Stewart (Surgeon 18th Regiment), Dr. Belcher, Professor Longmore, Dr. Fyfe, Inspector-General Dr. Muir, C.B. (who gives a sketch of Sherman's march), and others.

VI. — *Report of the Cholera Epidemic of 1865 in the Maltese Islands, together with an Introduction and an Epitome of the Cholera Epidemics that have previously ravaged them.* By Surgeon A. LEITH ADAMS, and Assistant-Surgeon F. H. Welch, 1st Battalion, 22d Regiment. *Statistical, Sanitary, and Medical Reports of the Army Medical Department.* Vol. VI., 1866. (Blue Book.)

This is an elaborate and most valuable account of the cholera epidemic of 1865 in the Maltese Islands. It is preceded by an authentic history of previous outbreaks of the epidemic in these islands, which is not the least valuable part of the report, as no connected history of the earlier outbreaks was accessible. The chief defect of the report is the included general history of the diffusion of cholera in the Mediterranean in 1865. It would have been well if this had been omitted, as the writers had not the means of obtaining an accurate knowledge of facts and dates, and consequently this portion of their work contains many errors. In all, however, that came under their own immediate knowledge and inquiry their report is of the highest importance, and reflects the greatest credit upon the energy and precision with which they conducted their investigations.

We shall confine our attention to two points of this report, the first relating to the introduction of cholera into the islands, and the second to the relation of the diarrhoea prevalent during the epidemic to the fully developed disease.

Towards the end of May, and before there was any knowledge of cholera having appeared at Alexandria, numerous pilgrims returning from Mecca had landed at Malta without the imposition of quarantine. About the same time the alarm beginning to spread in Egypt of cholera appearing in the track of the returning pilgrims, many Maltese returned home from Alexandria. A quarantine was not established against the Egyptian city until the 14th June, cholera having been officially declared to exist in Alexandria on the 11th, and the first vessel which arrived at Valetta after the establishment of quarantine had lost at least one of its crew from the disease. The first clearly noted case of cholera in Malta occurred in the so-called Plague Hospital, near the quarantine station, on the 20th June. But the reporters, from an attentive consideration of the whole facts, are of opinion that Malta was infected by the choleraic poison prior to the commencement of the quarantine against Alexandria on the 14th June, and that the poison came first in the track of the pilgrims and earlier fugitives.

The facts relating to the appearance of cholera in the island of Gozo are very precise. A sailor, who had been serving on board a small vessel in the harbor of Valetta, returned to his home on the island, with all the symptoms of cholera, on the 21st July. He was nursed by his two sisters and two other women. All of these were attacked on the 24th, and on the 25th another female attendant. From this last-named date and these cases the disease spread among the population of the island.

Prior to the onset of the epidemic there was no prevalence of bowel-complaint, either among the military or civil populations. Of the diarrhoea which existed during the epidemic, the reporters describe three varieties in the following terms:

"1st. The common ordinary summer diarrhoea, characterized by pains in the stomach, foul coated tongue, and numerous bilious stools, and very tractable in its nature. This was more prevalent than ordinary, and, no doubt, often caused by the irregular habits and drunkenness so rife among the soldiers during the epidemic. That it was also wide-spread among the civil population, the narrow streets and lanes outside the towns and casals fully attested.¹ It was ascribed by the native practitioners to the more than ordinary consumption of fruit by the poorer classes, bought by them at a very cheap rate, owing to the usual consumers

¹ The houses of the poorer class in Malta are often without any convenience whatever; and, consequently, while the male portion of the family "ease themselves" outside the villages and towns, the younger members make use of the street itself.

(the better classes) avoiding it most superstitiously as likely to produce the cholera, and substituting it by animal food.

"2dly. There was a diarrhoea not previously existing, characterized by painless watery purging, and often accompanied by vomiting of same character, clean or white furred tongue, depression of the countenance, dark rim under the eyes, and exhaustion. It could be found in every degree of intensity, and, when severe, was classed under 'choleraic diarrhoea.' Although intractable, it evinced no tendency to pass beyond a certain point, or assume a more malignant form, and was best treated on cholera principles. It was very frequent at the height and during the decline of the epidemic. The 29th and 84th Regiments remarkably well exemplified this form.

"3dly. There was the diarrhoea, an intensification of the second kind, and so completely intractable, that in sixty-one cases, where every possible attempt was made to check it, in none did it succeed, but was invariably followed by full development of cholera, — in fact, it was the diarrhoea stage.

"Among some medical officers, plans were put in action for the detection and checking of the bowel-flux by means of astringent mixtures and pills, easily attainable by the men. Room to room visitation by an intelligent corporal or hospital orderly was adopted in the 1st Battalion 22d Foot, and any man requiring more than two doses was sent at once to hospital. By others but little stress was laid upon this symptom, and more on the general appearance of the person, or the presence of *malaise*. However, the objects aimed at by all were to check minor bowel-complaints, to get any suspicious case as quickly as possible under surveillance, and by attention to the daily numerical applications for medicine, to have an indication of the tendency to health or otherwise of the men.

"It must be clearly stated, that during no period of the epidemic was the 'premonitory diarrhoea tending towards cholera, but easily checked,' met with. The second variety showed no tendency to pass beyond a certain point if not stopped. Its severe form, the third variety, was clearly a stage of the disease; and it may be fairly questioned whether a single case was prevented developing itself into cholera by treatment directed towards suppression of the intestinal flux. It was well to get rid of the first variety, on account of the supposed 'predisposition to imbibe' the virus shown by persons laboring under bowel-complaints.'"

The account of the propagation of the disease throughout the islands, its symptoms, and the result of treatment, is full, and of great value.

VII.—*Lectures on Epilepsy, Pain, Paralysis, and certain other Disorders of the Nervous System.* By CHARLES BLAND RADCLIFFE, M. D., F.R.C.P. Lond., Physician to the Westminster Hospital, and to the National Hospital for the Paralyzed and Epileptic. 8vo., pp. 280. Philadelphia: Lindsay and Blakiston. 1866.

This is an American reprint of Dr. Radcliffe's well-known lectures delivered before the Royal College of Physicians. We gather from it that English authors honored with transatlantic fame have more to be thankful for in the republication of their works than is commonly known. One of the American reviewers of Dr. Radcliffe's work, after complimenting the author highly upon his style, expressed a regret that it should be disfigured by the "obsolete orthography of Webster." This defect, however, in the reprint before us, has been courteously removed by the American compositors, and we may, therefore, hope that this edition will prove as satisfactory to our transatlantic brethren as the English edition has to the profession at home.

VIII.—REPORTS OF THE INTERNATIONAL SANITARY CONFERENCE.—

Rapport sur les questions du Programme relatives à l'Origine, à l'Endémicité, à la Transmissibilité, et à la Propagation du Choléra.

Rapport sur les Mesures à prendre en Orient pour de prévenir de nouvelles invasions du Choléra en Europe.

Rapport sur les Mesures d'Hygiène à prendre pour la préservation contre le Choléra Asiatique.

La Désinfection appliquée au Choléra. Par le D. MÜHLIG. Travail revu et approuvé par la Commission (Appendice au rapport sur les mesures hygiéniques).

Rapport sur les Mesures quarantenaires applicables aux provenances Cholériques. Constantinople. Imprimerie Centrale, 1866.

The International Sanitary Conference arose out of a suggestion of the French Government late in 1865. Epidemic cholera at that time had again found its way into several parts of Europe, travelling thither by a new route—a route which, on the first aspect, threatened greater future danger to Western nations than the lines of direction which had been previously followed by the disease in its migrations westward. The French Government addressed a note to the different Powers of Europe, and, laying special stress upon the foregoing fact and inference, suggested that a Conference should be held by the European powers to discuss the question whether it would be practicable to devise measures to prevent future migrations of cholera to Europe, and generally for the more effective limitation of the disease under any circumstances. The suggestion was readily responded to; and as it was assumed from the facts of extension of the recent epidemic that the execution of any measures devised by the Conference for the exclusion of cholera from Europe would probably fall chiefly upon Turkey, it was determined, out of due courtesy to the Porte, that the Conference should be held in Constantinople. Accordingly medical, and in the case of the greater Powers, political delegates from the following States assembled in that city early in the present year, namely—Austria, Belgium, Denmark, Spain, the Papal States, France, Great Britain, Greece, Italy, Holland, Persia, Portugal, Prussia, Russia, Sweden, and Turkey and Egypt. The discussions of the Conference occupied several months; and the results, with one exception, are published in the reports named above. Another report of the Conference, devoted to a historical sketch of the epidemic of 1865, has yet to appear.

Either from the impracticability of the subject, or from a want of soundness in the original scheme, the labors of the Conference have not ended so satisfactorily as was desirable. They have added nothing to our previous knowledge of the disease, or of our means of preservation from it. Almost all their practicable suggestions have been anticipated; and for the rest, novelty does not beget admiration when conjoined with impracticability. Certainly the Conference has brought together all that is best known of the etiology, mode of diffusion, and hygiene of cholera, and set forth this knowledge in a very compendious, although not always trustworthy, form. The results thus obtained, it may be surmised, will exercise a beneficial effect on the different States of Europe by bringing their practices in reference to the prevention of cholera more into a common accord. But whether this somewhat lame conclusion is to be deemed a sufficient return for so costly an investigation may be questioned.

The Conference holds that India is the birthplace of cholera, that the disease is endemic there, and that it is only known beyond the borders of that country through its propagation by man. It maintains that the facts showing the transmissibility of cholera, and its diffusion by those sick of the malady, are absolute. Whilst holding that the sick of the disease, whether in its diarrhoeal or collapsed form, are the principal agents in its dissemination, it further con-

cludes that under certain circumstances various stuffs, particularly such as may have been saturated with the discharges of the sick, may contribute to its spread. In addition the Conference holds that the dejections of the sick from cholera contain the active agent in the propagation of the disease, and that this propagation is effected mainly through the medium of the soil, of water, and by atmospheric dispersion. Upon these leading conclusions the principal recommendations of the Conference are founded.

With regard to the endemicity of the cholera in India, they suggest that a systematic inquiry should be made into the causes of this endemicity; also that the sanitary measures already in process of being carried out in the different Presidencies should be extended. Particular stress is laid upon the importance of the sanitary regulation of the Hindoo pilgrimages. The immense accumulation of persons which takes place during the pilgrimages which are made to the numerous shrines scattered throughout India is regarded as the most fertile cause of the maintenance and propagation of epidemic cholera. Similarly the great Mohammedan pilgrimages of Persia and the Hedjaz are regarded as principal fostering causes of the disease, when it has passed the Indian frontier. Measures are, therefore, recommended for the sanitary control of these pilgrimages, and particularly with reference to the pilgrimage to Mecca. At Mecca measures such as those now finally recommended by the Conference were placed in force during the pilgrimage of last year (which occurred shortly after the Conference had assembled), and there is good reason to believe, with marked benefit to the health of the mass of devotees. The whole of the recommendations in regard to the hygiene of the sacred cities of the Hedjaz, and the regulation of the principal Mohammedan pilgrimage, are in the highest degree satisfactory, and full of promise if they should be carried into effect.

With regard to the protection of Europe from future invasions of cholera, the Conference thinks that this is not altogether impracticable. To this end, in addition to the internal measures of hygiene in India and the adjacent countries westward, it recommends a vast system of quarantine of exclusion forming a permanent barrier to the migration of the malady within the European frontier. It assumes first that the evils arising from quarantine are of less moment and less distressing to commerce than the evils arising from an outbreak of cholera among a community. It assumes also that there is the highest probability that a quarantine based upon the knowledge of cholera which we now possess would prove successful. It admits that a quarantine of exclusion upon the coasts of the busy and crowded countries of Europe, where the populations are large and intercourse is great and incessant, would be a doubtful benefit; but it holds that where intercourse between community and community is slight, and towns and villages are widely separated, as on the confines of the East, quarantine would be effective and trustworthy. It holds, in short, that a quarantine of exclusion would be beneficial in proportion as it can be approximated to the great centre of infection, India, and applied to scattered populations. The Conference, therefore, recommends a system of quarantine extending from the mouth of the Red Sea to the Russo-Siberian frontier.

The routes between Persia and Russia both by land and the Caspian, also between Russia and Central Asia (the routes of cholera in 1831 and 1849), are already guarded by stations of quarantine observation, and the Conference suggests certain details of amendment for the better carrying out of the observation in respect to the cholera.

A suggestion is made for the protection of Persia by the establishment of stations of observation on the routes from the Punjab to that country—an impracticable scheme, contrasting strangely with the comparative neglect of the route of infection by the Persian Gulf. For the latter, and principal route by which cholera reaches Persia, is left with seeming indifference, or with a better apprehension of the difficulties of erecting a barrier of quarantine among eastern nations than is suffered to appear elsewhere, to the protection of an ordinary quarantine.

With regard to the Turco-Persian frontier, it is recommended that every route shall be guarded, and that on the principal routes lazarets shall be provided. On some of the routes an inefficient sanitary observation has been kept up for

some time by the Turkish Government, and the Conference looks upon this beginning as the nucleus of a more complete system. It admits, however, that its recommendations in respect to this frontier must for the present be looked upon as somewhat visionary—as a plan for study, and not for immediate realization.

Having thus verbally provided for the safety of Europe from the migration of cholera by way of the Russian and Turkish frontiers, the Conference addresses itself to the task of barring out the disease along the route it followed last year for the first time—that is, by way of the Red Sea, Egypt, and the Mediterranean.

It recommends the establishment of a great international station of observation at the mouth of the Red Sea (on the Isle of Perim), with a lazaret on some convenient spot of the adjacent coasts yet to be determined. By this station it is believed that the direct importation of the disease from India would be prevented. But as the disease has never yet been known to have been imported into the Red Sea direct from India, the founding of so costly an establishment as that contemplated would surely be supererogatory. In 1865 the two ships which first manifested the infection in the Red Sea, caught the disease at Makalla, on the South Coast of Arabia. Doubtless a station at Perim would prove effectual for the overhauling of ships so unfortunately circumstanced. But the chief line of transit of the disease in 1865, was not by ships which would come under the cognizance of observation, but along the coast, and probably mainly by coasting craft. Now, over this line of travel, a station at Perim would exercise no control whatever, and to establish it for the purpose of limiting incidental infection from the Arabian coast, would be a measure entirely disproportionate to the end aimed at.

In the event of cholera breaking out in the Hedjaz during the time of the pilgrimage, it is recommended that the intercourse between the Hedjaz and Egypt should be temporarily suspended, and that provision should be made for subjecting the returning pilgrims to quarantine at St. Wesoh, a locality north of Jeddah. These recommendations are plausible and probably practicable; even apart from considerations of the protection of Europe, the chance of saving Egypt from the disastrous consequences which have always followed invasion by the epidemic, would perhaps induce the government of that country to spare neither cost nor trouble to stay the onward progress of the disease. And the peculiar circumstances under which the pilgrimage is performed, and isolation of the Hedjaz, would admit of measures of restriction being adopted there, which would be impracticable elsewhere.

But supposing these measures should fail and the disease again reappear in Egypt, the Conference recommends that all intercourse between that country and the basin of the Mediterranean should be temporarily interrupted. This recommendation ignores the patent facts of the late outbreak. Here the rapidity and frequency of communication by the Mediterranean sea-route render it altogether improbable that a quarantine of exclusion would have the effect desired. Moreover, the recommendation is in direct contradiction with the facts of the epidemic extension of 1865. It is as certain as facts of this kind can be, that the diffusion of the choleraic infection in the Mediterranean in that year—at least at two points, Malta and Marseilles—had taken place before the disease was suspected to have existed in Egypt. And there is nothing in the suggestions of the Conference to shut out the likelihood of a repetition of such an occurrence. To stop the active intercourse with a country under such circumstances would be a vexatious folly. It could not offer any greater security than a well-regulated quarantine, and would give rise to multitudinous evils.

The recommendations of the Conference with regard to the formation of a barrier of quarantine between Europe and India do not beget confidence. They too manifestly extend much beyond the facts upon which they are presumed to be founded, and meet a theory rather than a practical need.

The subsidiary recommendations of the Conference deserve higher commendation. The suggestions as to the construction of lazarets, and the details of a quarantine against cholera; also in regard to the hygiene of cholera out-

breaks in towns and cities and ships, and especially the application of disinfectants, are most instructive. We apprehend that the reports directed to these objects will prove the most valuable labors of the Conference.

IX.—*A Practical Treatise on the Physical Exploration of the Chest, and the Diagnosis of Diseases affecting the Respiratory Organs.* By AUSTIN FLINT, Professor of the Principles and Practice of Medicine in the Bellevue Hospital Medical College, and in the Long Island College Hospital, Fellow of the New York Academy of Medicine, &c. Second edition, revised. Philadelphia: Henry C. Lea, 1866. Large 8vo, pp. 595.

This is an admirable book. Excellent in detail and execution, nothing better could be desired by the practitioner. Dr. Flint enriches his subject with much solid and not a little original observation. For example, he has given great study to the character of the acoustic signs in diseases of the respiratory organs in relation to *pitch*, as well as quality, and, he believes, with much profit. "By means of differences in pitch, conjoined with that of quality," he says, "the respiratory sign called bronchial or tubular breathing, may be readily distinguished from the cavernous respiration; a prolonged expiratory sound proceeding either from vesicular emphysema or an abnormal exaggeration of the vesicular murmur, that is, not denoting solidification of the lung, need never be confounded with the prolonged expiration which denotes a tuberculous or other solidifying deposit; exaggerated or puerile breathing is easily recognized as distinct from what has been called rude respiration; the vocal sign called bronchophony is distinguished from a simple increase of the resonance of the voice, and the pectoriloquy arising from solidifying lung is discriminated from the pectoriloquy which signifies a pulmonary cavity."

Dr. Flint also adopts several new terms. Thus, under the name *broncho-vesicular*, or *vesiculo-tubular respiration*, he describes certain modifications of the respiratory sounds representing all the degrees of solidifications of lung which fall short of an amount sufficient to yield purely bronchial or tubular breathing. "These modifications," he says, "have heretofore been loosely embraced under the names rude and rough respiration. The names broncho-vesicular and vesiculo-tubular express the distinctive characters of the sign, and are thus in themselves descriptive. By the different grades of modification, as regards the pitch and quality of the inspiratory and the expiratory sound, the amount, as well as the extent, of the solidification may be ascertained. This sign is of much value, especially in the diagnosis of tuberculous disease in its early stage." Dr. Flint, moreover, introduces the term *broncho-cavernous* as expressing the characters of a sign which represents solidification of lung and a cavity conjoined.

An original feature of the work is the introduction of several signs produced by the whispered voice. "These signs," he says, "as representing certain physical conditions, are generally available, and their characters relating to pitch and quality are highly significant. The names *exaggerated bronchial whisper*, *whispering bronchophony* or *bronchophonic whisper*, and *cavernous whisper*, although, perhaps, not intrinsically the best which might have been devised, have the advantage of corresponding with the names commonly applied to correlative signs produced by the loud voice."

Dr. Flint claims as a feature of his work "the recognition of the principle that the constancy of association of certain abnormal sounds with certain physical conditions constitutes the only reliable proof of the validity of the former as representing the latter. It is inconsistent with the principle to undertake to determine *a priori* signs to which certain physical conditions give rise, and still more, on the other hand, to infer the existence of certain physical conditions from certain abnormal sounds."

- X.—*A Practical Treatise on Fractures and Dislocations.* By FRANK HASTINGS HAMILTON, A.B., A.M., M.D., Professor of the Principles of Surgery, Military Surgery and Hygiene, and of Fractures and Dislocations in Bellevue Medical College; Surgeon to Bellevue Hospital and to the Charity Hospital, New York; Professor of Military Surgery, &c. in the Long Island College Hospital, &c. Third edition, revised and improved. Philadelphia: Henry C. Lea. 1866. Large 8vo, pp. 777.

This is the most complete treatise on the subject in the English language. The value in which the work is held in America is to be estimated by the rapidity with which the two previous editions have been sold and the necessity for a third has arisen. A better knowledge of its completeness and compendiousness, in this country, will lead to this volume obtaining a permanent place upon the bookshelves of practitioners. The experience of the recent war in America does not appear to have furnished Dr. Hamilton with so much additional material as might have been anticipated. He gives a summary of the statistics of the war in reference to gun-shot fractures. The question of trephining the spine, in case of fracture, will require reconsideration in a subsequent edition, from the additional light thrown upon it by Dr. Robert McDonnell. Not the least merit of Dr. Hamilton's work is the abundance of the illustrations. These are not quite equal in artistic execution to the merits of the book, although they serve the purpose for which they are intended.

- XI.—*A Treatise on the Origin, Nature, Prevention, and Treatment of Asiatic Cholera.* By JOHN C. PETERS M.D. New York: D. van Nostrand. 1866. Sm. 8vo, pp. 162.

Dr. Peters advocates the opinions now most commonly accepted respecting the transmissibility of cholera, and the mode thereof, and he clothes his principal propositions (without acknowledgment) mainly in the words of Mr. Simon's important official memorandum on the subject. For the rest, he states that he makes "no claim for great originality" in any portion of his work, "except for the development of the Physiological Theory, and the advocacy of the internal disinfectant and corrective treatment." The theory referred to appears to be the dependence of the symptoms of cholera upon the exudation from the intestinal canal.

Dr. Peter's account of the origin and diffusion of the epidemic of 1865-66 is curiously incorrect.

- XII.—*Club-Foot: its Causes, Pathology, and Treatment.* Being the Essay to which the Jacksonian Prize for 1864, given by the Royal College of Surgeons, was awarded. By WILLIAM ADAMS, F.R.C.S., Surgeon to the Royal Orthopædic and Great Northern Hospitals. London: J. Churchill and Sons. 8vo, pp. 422.

The least merit of this book is that it is a successful prize essay. It has more substantial claims upon the consideration and confidence of the profession. It is the work of an accomplished surgeon, who has had large opportunities of acquiring an exceptional knowledge of the subject of which it treats, and we apprehend that it will long be the standard work on the subject in England. The book is thoroughly good in detail, illustration, and arrangement.

Mr. Adams first describes the various forms of club-foot, and the history of

subcutaneous tenotomy in the treatment of the affection. He next discusses the questions arising out of the reunion of tendons after subcutaneous tenotomy, and the rate of extension after operation, in the treatment of club-foot. Then he proceeds to an examination of the relative merit of tenotomy and the stretching of muscles and other tissues by mechanical means in the treatment of club-foot. Next he proceeds to an account of non-congenital spasmodic and paralytic talipes, and of deformities with rigid muscles; also of the deformities with flaccid muscles, and with muscles in a healthy condition after recovery from paralysis, examining at the same time the pathology and treatment of these various conditions of distortion. Finally, he discusses in detail the different varieties of club-foot, and the special treatment of each variety.

Space prevents us following Mr. Adams over this large field. We may only dip into his work here and there. On the difficult question of the state of the tendon after the termination of the healing process when subcutaneous section has been performed, Mr. Adams remarks:—

"The great difficulty in arriving at any satisfactory conclusion as to the ultimate disposal of the new connecting tissue, and the general results of tenotomy in the human subject, arises from the absence of facts which can only be acquired after death; and as there is nothing in the operation likely to produce death, the facts can only be obtained from some rare instances in which death should happen to occur at different periods of the operation, from circumstances not connected with the operation, such as convulsive affections, acute pulmonary inflammation, or any of the acute diseases to which children fall victims, while the reparative process is proceeding uninterruptedly in a healthy manner. The *post-mortem* examination must therefore be extremely rare" (p. 24).

Mr. Adams's observations are, however, sufficiently numerous to show conclusively that an actual growth of tendon takes place, and that to this new growth is due the permanent elongation which follows subcutaneous section, and permits the rectification of distortion. He says:—

"The new tendon always remains a permanent tissue and as an integral part of the tendon, the divided extremities of which it has been formed to unite. In one specimen in which I divided the tendo Achillis three years previous to death, an inch and a quarter of new tendon was clearly traceable.

"The average length of new tendon formed in children operated upon for club-foot to reunite the divided extremities of the tendo Achillis appears, from my observation, to be from half an inch to an inch, and in adults from one to two inches. I am of opinion the facts adduced are amply sufficient to disprove the *linear-cicatrix theory*, which assumes that a newly-formed tendinous structure has a disposition to undergo a process of gradual contraction, such as we see taking place in the cicatrices of the skin after burns, to which Mr. Tamplin has compared it, and that ultimately it becomes absorbed; the muscular structure at the same time becoming elongated by the force of the contraction of the cicatrix, so as to allow of the reapproximation of the ends of the divided tendon, and the formation of a linear cicatrix.

"From my observation, it appears that, in the cure of deformities, muscles are elongated by the increased length of their tendons, obtained by means of subcutaneous division and the development of new tendon formed for the purpose of reuniting the divided extremities of the old tendon" (p. 26).

On the general principles of treatment of club-foot, and particularly upon the combination of measures, Mr. Adams offers, among others, the following instructive remarks:—

"We dwell upon the necessity of this combination, because, in English orthopædic surgery at the present day, the operative and mechanical means are too generally adopted, to the exclusion or neglect of the physiological, the value of which increased experience daily brings before us; and it is owing to this neglect that, although the external form of the foot in severe cases may be restored, a very limited amount of motion at the ankle-joint is gained, and a great tendency to relapse continues.

"If, then, without the aid of the physiological means, the operative and mechanical in combination are allowed to be inadequate to the cure of club-foot, so, on

the other hand, he cannot forcibly insist upon the fact that the operative treatment, or tenotomy, is the most unscientific that can be adopted unless the assistance of the mechanical and physiological is combined with it.

"In cases of club-foot, it is a great error to suppose that tenotomy constitutes the sole or even the chief remedial agent" (p. 32).

In an appendix Mr. Adams gives the histories of several instructive cases.

XIII.—*Asiatic Cholera: its Origin and Spread in Asia, Africa, and Europe; Introduction into America through Canada; Remote and Proximate Causes, Symptoms, and Pathology, and the various modes of Treatment Analyzed.* By R. NELSON, M.D., Health Commissioner during the first two invasions, 1832, 1834; President of the Medical Board for the District of Montreal. New York: William A. Townsend. 1866. Sm. 8vo, pp. 206.

The interest of this book consists in the account which Dr. Nelson gives of the first invasion of Canada by cholera in 1832; and it is greatly to be regretted that he has not given the details (which he states that he possesses) of the dissemination of the epidemic from Canada into the United States. If the space given to the inutile discussion of the remote cause, pathology, and treatment of cholera had been occupied by the facts of its progress in 1832, which came under the personal or official knowledge of the author, his work would have been a welcome and permanently useful addition to the history of the disease.

XIV.—*The Antidotal Treatment of the Epidemic Cholera: with Directions, General and Individual, for the Prevention of the Disease.* By JOHN PARKIN, M.D., F.R.C.S., late Medical Inspector for Cholera in the West Indies. London: J. Churchill and Sons. 1866. Third Edition. 8vo, pp. 321.

Dr. Parkin believes that carbon, in its simple and compound forms, is an antidote for cholera. Of all its forms he holds carbonic acid to be the best. This asserted antidote he holds to be especially serviceable in the earlier stages of the disease, and particularly at the commencement of collapse. "In the state of confirmed collapse, when the circulation is entirely suspended, the same result can hardly be expected to follow; at least by the introduction of the remedy into the stomach" (p. 58). But even in collapse, Dr. Parkin states, as the result of his experience, that the treatment by carbonic acid "is infinitely more beneficial than any other method" (p. 81).

Of the mode of carrying out the treatment he says:—

"As it is absolutely necessary that the medicine should be taken in a proper manner,—for, otherwise, the patient will only be swallowing a simple solution of tartrate or citrate of soda, instead of a certain portion of carbonic acid gas,—it may not be superfluous to point out what I consider to be the best mode of preparing the effervescent draughts.

"Thirty grains of the powdered bicarbonate, or sesquicarbonate, of soda or potash should be put into a large tumbler with a wine-glassful of water, to which is to be added a dessert-spoonful of any simple syrup, mixing the two ingredients together so as to form a homogeneous mass. Then take twenty grains of citric and tartaric acid, and dissolve them in half a wine-glassful of water, when the solution is to be poured on the contents of the tumbler, and the mixture drank off immediately, *before the effervescence has subsided.* If more convenient, or when to be obtained, lemon-juice may be substituted for the citric and tartaric acid, in the proportion of two table-spoonfuls of the lemon-juice to the same quantity of soda or potash. As the object in giving the syrup is to render the mixture more tenacious, and to prevent the gas escaping as rapidly as would otherwise be the case, it is not necessary, when the lemon-juice is used, to add any syrup" (pp. 69, 70).

Dr. Parkin supports his opinion of the value of carbonic acid in the treatment of cholera by statistics showing happy results. But if, tempted by his experience, others should be disposed to follow his practice, they must not forget Dr. Parkin's limitation. "When the question has been put to me," he says, "Is carbon a remedy for the collapsed stage of cholera? my answer has been—No; it is not a remedy *for* collapse, but a remedy to *prevent* collapse" (p. 320).

Effervescing draughts such as those recommended by Dr. Parkin have been commonly used as adjuvants to other treatment; but Dr. Parkin makes these draughts the essential part of the medicinal treatment, or administers the carbonic acid or carbon in some other form.

XV.—*Cholera: its Seat, Nature, and Treatment.* By CHARLES SHRIMPTON, M.D., Chevalier de la Légion d'Honneur, Médaille du Choléra décernée par la Ville de Paris, 1832, &c. London: J. Churchill and Sons. 1866. 8vo, pp. 109.

Dr. Shrimpton's work will chiefly interest the English reader from the account which it contains of the discussions in France on the mode of appearance of cholera, whether spontaneously or by transmission, in Marseilles in 1865. On this question his work may be consulted with advantage. Dr. Shrimpton disbelieves the theory of impertation, and carefully reports the evidence against this view. He discusses, also, the pathology and treatment of cholera.

XVI.—*The Tropical Resident at Home. Letters addressed to Europeans returning from India and the Colonies, on subjects connected with their Health and Welfare.* By EDWARD J. WARING, M.D., F.L.S., M.R.C.P., Surgeon in Her Majesty's Indian Army; formerly Acting Health Officer, Fort Morant, Jamaica. Sm. 8vo, pp. 242.

We shall not pretend to estimate the opinion which "old Indians" will entertain of this work, but it will certainly prove amusing as well as interesting to residents at home who have not had any experience of the distant East. Dr. Waring brings the "old Indian" before the home public in a new light. He pictures him as an amiable innocent, who requires again to be put into leading-strings from the moment he touches the English shore. During the long absence from "home" and long life under the conditions compelled by a tropical climate, he is assumed to have lost in the main the habits, and forgotten the common state, of the home life. He is thus apt to form erroneous estimates of the land from which he has been alienated many years, and to become the prey of commonplace schemers. We cannot dispute this picture: Dr. Waring, it must be assumed, writes from experience. This, however, broadly would seem to be his notion of his quondam and distant friends, and he kindly volunteers to advise them under the circumstances. He does this in a series of letters which all will read with interest, many with profit. He takes the "old Indian" by the hand, and first cautions him against the possibility of disappointment on his reaching home. Death and a redistribution of friendships and interests will have operated many changes during his absence. Even his former intimate friends in the East may be swallowed up by closer ties at home. Then the contrast between the restraint of English life, and the freedom of the life he has just come from. All these things may tend to deaden the warmth of the reception he had hoped for on once more touching the dear old shores, and so lead to a painful disappointment. Who will not recognize the truth of the picture and sympathize in it? Dr. Waring, having cautioned the "old Indian" against such disappointment, next proceeds to lecture him upon the necessity of occupation, if he would be happy. Farming,

horticulture, botany, and other natural sciences, out-door sports and pursuits, literature, art, religion, philanthropy, and the volunteer force, are open to him, and form fitting fields for his exertions. Hear a fragment of what he says of literature:—

"It may, however, be very possible that with strong literary tastes you have no desire to appear in the character of an author. It makes little difference. You need never be in want of pleasurable and general occupation. To you, and such as you, London is, *par excellence*, the place of places. What noble libraries at command! Why, the reading-room of the British Museum, open to all free of cost, is a place where a man like you might spend 'a year of Sundays,' without a single feeling of *ennui*. Fancy (and may the fancy soon be a reality) being comfortably seated in one of the most magnificent rooms in the world, with the power, by simply writing a name on a piece of paper, of being supplied with any book that your wildest imagination can fix upon; the costliest and the rarest books are there awaiting your call. But, besides this grand national collection, there are numerous other splendid libraries in every department of literature, either open gratis on presenting a letter of introduction, or available by the payment of a small annual subscription. Hard indeed to be pleased must that man be, who amongst such treasures should fail to extract pleasure and occupation enough for his mind, however active.

"But above and beyond these, are those delightful old second-hand bookshops. . . ."

For the rest of the pleasant vision, we must, however, refer to the book itself.

Dr. Waring next chats with the "old Indian" in succession, on the choice of a place of residence, the climatology of England, the search after lodgings, clothing on arriving, night attire, food, beverages, baths, physic, and income, and on all these subjects he offers abundant good and pleasant advice, not hesitating, when the occasion fits, to descend into minute details; witness, among other instances, the paragraph on night-caps.

XVII.—*A Winter in Paris: being a few Experiences and Observations of French Medical and Sanitary Matters gained during the season of 1865-66.* By FREDERICK SIMMS, M.B. Lond. London: J. Churchill and Sons. Sm. 8vo, pp. 151.

This is a very pleasant gossip concerning things medical in Paris. Mr. Simms very agreeably describes the department of Public Assistance in its relations to the Paris hospitals, the hospitals of that city both special and general, the school of medicine and method of medical education, and he adds a notice of the sanitary arrangements of the quondam Lutetia.

XVIII.—*Transactions of the Pathological Society of London.* Vol. XVII. Comprising the Report of the Proceedings for the Session 1865-66. London: Printed for the Society. 8vo, pp. 482.

The yearly volume of the Pathological Society's Transactions increases in bulk and richness. The present volume is a fertile mine of pathological facts.

XIX.—*A Practical and Theoretical Treatise on the Diseases of the Skin.* By GEORGE NAYLER, F.R.C.S., Assistant-Surgeon to the Hospital for Diseases of the Skin, Bridge-street, Blackfriars. London: J. Churchill and Sons. 1866. 8vo, pp. 292.

Although several excellent and handy treatises on skin-diseases have recently appeared, Mr. Naylor's work is most welcome. His descriptions of the different

cutaneous maladies are very clear and good, and his account of treatment, verified by the large experience of the hospital to which he is attached, is full of instruction and suggestion. His treatise is certain to command favor with active practitioners. Additional items in its favor are the excellence of the illustrations and the goodness of the typography.

We shall dwell only on the last chapter of the work. This is devoted to some observations on diseases of the skin following vaccination. The agency of vaccination in the evolution of syphilis is especially considered, and Mr. Nayler takes exception to Mr. Simon's summing up of the question in his official papers on vaccination, published in 1857. "In these papers," Mr. Nayler writes, "there is no one point more strongly contested by Mr. Simon than the transmission of syphilis by vaccination. I must confess," he adds, "to my failure in the perception of any antecedent improbability in the question as to render its impossibility conclusive; or that vaccination should stand alone in its unqualified results. The objections taken by Mr. Simon may be reduced to these:—

1st. That the constitutional disturbance attending vaccination may of itself give rise to eczema, when a predisposition to this disease exists. Nothing can be more true, and how often do we find the same complaint accompanying dentition, or proceeding from an apparently trivial cause. Again, Mr. Simon takes exception to the rarity of the so-called cutaneous complaints consequent upon vaccination, as affecting the validity of their existence. This line of argument is untenable. The comparative rarity is admitted. It furnishes evidence the most direct in favor of the general care with which vaccination is conducted, but it proves nothing more; and 3d, the assertion that syphilis has actually followed vaccination is simply an assumption unsupported by fact.

Mr. Nayler continues:—

"The cases which I have selected occurred at the Skin Hospital, under the care of Mr. Startin, at a time when I was his clinical assistant.

"The first was that of J. W., aged twenty-two years, the youngest of a family of seven, who, herself excepted, have always possessed excellent health. Her father died of phthisis, mother still alive. At the age of three months she was vaccinated on the left arm, but the pustule never quite healed. Much inflammation followed, and the ulceration spread until it at length involved the whole arm, and showed all the characters of syphilitic lupus. The front aspect of the arm, from the shoulder to the elbow, presented a series of irregular cicatrices, with here and there a few tubercles ready at any time to ulcerate. On the face the disease commenced eight years ago, and is now represented by a patch on either cheek more than three inches in diameter. She has felt much pain at times, and before she came to the hospital in 1862, she had been subjected to various modes of treatment. Most benefit has been obtained from the exhibition of the bichloride of mercury and the iodide of potassium, and the external application of the arsenical caustic of the Hospital Pharmacopœia.

"The next is E. M., aged fifteen years, the youngest but one of five, and who was vaccinated in the usual manner on the left arm only a twelvemonth ago. To the time of vaccination she was quite well, and a strong healthy girl. The vaccine pustule soon became an unhealthy sore, occupied several weeks before it closed, and ended in a large irregular cicatrix. Before the latter had completely formed, psoriasis became developed on the lower extremities, even to the toes, and then proceeded to the upper and other parts of the body; the eruption resembled that of psoriasis guttata, but the scales were badly formed. She became an out-patient on the 21st of April, 1863, and was soon relieved by remedies similar to those used in the last case, and the employment of an ointment composed of creosote and mercury.

"The third case was that of M. M., nineteen years of age, who, on admission, presented the following symptoms: her entire scalp was a mass of ulcers and cicatrices; the former varied in size from a sixpence to that of a penny-piece, and exposed at different points the bone, much of which was in a necrosed state. Most of the ulcers were filled with a thin and very offensive discharge. Several soft tubercles might also be seen at the bridge of the nose and about the ears. She had never menstruated, and seemed much out of health; her hands were always

damp, and feet cold. She was the third of six children, but unlike the others, had always been in indifferent health from the time of her vaccination, when three months old. The vaccine pustule soon degenerated into an ill-conditioned ulcer, which did not heal for twelve or more weeks. She had also abscesses about the arm. A cicatrix remains to this day, similar to that mentioned in the last case. At the age of fourteen years she was attacked with serpiginous ulceration of the scalp, until it involved the whole of its surface. She was too ill, being unable to walk beyond a few yards, to continue her attendance at the Skin Hospital, and was therefore admitted into St. George's Hospital, under Mr. Pollock's care, June 15th, 1864. Her diet was carefully attended to, and she was ordered a mercurial vapor bath three times a week, besides taking sarsaparilla with the syrup of the iodide of iron daily. At first she made an objection to the bath, deeming herself too weak to bear it, but she soon became reconciled from the benefit she derived from its use. She gained weight, and in less than a month the head was covered with a granulating healthy surface; portions of dead bone were continuously removed by the application of a dilute sulphuric acid wash. At the end of two months more she was discharged, relieved of all severe symptoms and comparatively well."¹

Surely Mr. Nayler does not pretend to rest so grave a conclusion as the transmission of syphilis by vaccination upon cases so imperfect as the foregoing? Was J. W. under experienced observation from three months old to the age of twenty-two? If not, what is the value of the early history of her case? Is there any necessary relation between the vaccination of E. M. and the psoiriasis which followed, as to justify its being placed in a category of proofs of vaccino-syphilitic transmission? And what sufficiency of proof exists of the relationship of M. M's. vaccination at three months and the ill-conditioned ulcer following, and the appearance of serpiginous ulceration of the scalp and subsequent evils at fourteen years of age?

On referring to Mr. Simon's report, we find that Mr. Startin, in his reply to Mr. Simon's question, "Have you any reason to believe or suspect (a) lymph, from a true Jennerian vesicle, has ever been a vehicle of syphilitic, scrofulous, or other constitutional infection to the vaccinated person; (b) or that unintentional inoculation with some other disease, instead of the proposed vaccination, has occurred in the hands of a duly educated practitioner?" replies, "This is a difficult question to answer satisfactorily, as the reply must rest upon what is to be regarded as a 'true Jennerian vesicle,' as this vesicle in a subject suffering under constitutional or acquired syphilis, or from porrigio, or even scabies, might be still a 'true Jennerian vesicle,' though not a pure one; and these maladies I have many times seen transferred from such a vesicle. I have also seen the same maladies inoculated by public vaccinators from unintentional vaccination, and such parties, I presume, are 'duly educated practitioners'."

We may fairly assume, taking Mr. Nayler's cases as examples, that at least in reference to the most important question of transmission, that of syphilis, the hospital to which he is attached is not so rich in illustrations as Mr. Startin would have us believe. With every respect for Mr. Startin's experience, he does not appear to have supported his broad statement by instances. And giving all force to Mr. Nayler's observations upon the condition of the vaccine pustule and subsequent health of the vaccinated as elements of diagnosis, we should hesitate to attach so grave a conclusion as the transmission of syphilis by vaccination in any of the cases he relates.

The recent lengthened discussion on this subject in the Academy of Medicine, Paris, exhausted the facts which could be adduced in the affirmative. But the result was far from convincing, so numerous were the sources of fallacy. The whole question has been most ably discussed in Dr. Seaton's admirable article on *Vaccination* in Reynold's *System of Medicine* (vol. i.), and his remarks upon the affirmative evidence are as follows:—

"Now the cases which have been brought forward, whatever ground they may give for caution (and in a matter of such extreme consequence there can never be

¹ This patient, as well as the first, J. W., the author presented at a meeting of the Western Medical and Surgical Society.

too much caution), do not appear to me to afford this strict proof, or anything like strict proof; each one of them is wanting in some essential point, or is open to some source of fallacy. Either there was no evidence that the child said to have originated the syphilis was at any time syphilitic, or it was not known that the alleged syphilitic vaccination was not in fact a syphilitic inoculation *instead* of vaccination; or there was reason to believe that the syphilis which developed itself after the vaccination had an independent origin; or the facts were inquired into at too great a distance of time, and depended too much on the statements of ignorant persons to be wholly relied on. Thus in the occurrence at Rivalta, the circumstances were not inquired into till four months after their origin."

Dr. Seaton speaks with peculiar authority on this subject.

XX. — *Clinical Histories, with Comments.* By HENRY DAY, M.D., M.R.C.P., Physician to the Stafford County Infirmary. London: J. Churchill and Sons. 1866. 8vo, pp. 254.

Dr. Day's work will be read with much interest. The records, by a thoughtful observer, of the rarer forms of diseases coming under his observation, or the results of some special mode of treatment, will always command attention. The first of Dr. Day's histories is devoted to a subject of growing interest in this country—cerebro-spinal meningitis. Dr. Day records two sporadic cases of the disease. Cases have also been recorded by Dr. F. J. Brown, of Rochester, and Dr. Clapton, of St. Thomas's Hospital. These cases are of great interest in face of the recent epidemic extension of the disease in Northern Europe. Dr. Day does not seem to be acquainted with Dr. J. Burdon Sanderson's valuable report on the outbreak of this disease last year on the Lower Vistula. The report, accessible many months ago, is now published in the Eighth Report of the Medical Officer of the Privy Council.

Other histories of special interest are those referring to the treatment of acute rheumatism by blisters; rheumatic fever without pain; epilepsy from peripheral irritation, also from hepatic congestion, hysterical facial paralysis, &c.

Dr. Day gives six cases of acute rheumatism treated by blisters, and he adds the following remarks:—

"I could, without difficulty, give pretty near a score of similar cases, in all of which the blistering proved of as marked and unmistakable service as in those I have just described; but as it would be tedious to do this, I shall satisfy myself, and I hope my readers, by saying that after the proof I found a most valuable adjuvant in the treatment of a most troublesome, and, in the generality of instances, a most painful disorder.

"In every case in which I have adopted it, the relief from rheumatic pain has been beyond all doubt immediate, and for the most part permanent, and in no case have I had the supervention of pericardial or endocardial inflammation after the application of the blisters—so that, as far as I can judge, it seems to endow the patient with a sort of immunity from these complications.

"It will be observed that my cases were none of them treated with blisters *alone*, and after what I have said upon 'special remedies,' it could not be expected that I should do so, for although thoroughly convinced in my own mind that Dr. Davies' treatment relieves pain and prevents cardiac complications, I am equally convinced that every case must be, or at any rate should be, treated on its own merits. Each case may require some modification in its management, and *special remedies* must all be used to some extent in an empirical manner until the *special pathology* of rheumatism is better understood; and as Dr. Fuller has observed in his work on rheumatism, 'what we want is far less the discovery of any new medicines, than the adaptation of our present remedies to the exigencies of each case.'

"In concluding these remarks I may add, that in the most extensive blisterings in this malady, I have met with only one instance of strangury being produced, and this was very trifling in its nature and rapidly passed off; but I have in some few instances found the blistered surfaces difficult to heal, and indeed this circumstance has not unfrequently been the occasion of the patient being longer under treatment than would have been otherwise necessary, the rheumatism having quite

gone, but the blistered surfaces remaining unhealed. In a Metropolitan Hospital, from want of room to meet the many urgent cases which present themselves, of course such patients would be discharged, or continued as out-patients; but in a Provincial Hospital, the smaller number of patients allows of these cases being detained until their entire condition is such as to admit of their at once resuming their usual occupations."

The history of hysterical facial paralysis refers to the case of a man aged thirty-one years. A first attack had occurred immediately after hysterical laughing and crying, preceded by intemperance, and vanished suddenly, after some preliminary treatment, during a shower-bath. A second attack followed intemperance and sexual excess, but disappeared upon the third or fourth day, after a turpentine enema and several doses of bromide of potassium as administered also in the first case. Other histories of morbid states are equally interesting.

XXI.—*Clinical Lectures and Reports by the Medical and Surgical Staff of the London Hospital. With an Appendix on the recent Epidemic of Cholera.* Vol. III., 1866. London: J. Churchill and Sons. 8vo, pp. 499.

The third volume of the *London Hospital Reports* is not less abundant in interest than its predecessors. Among the more notable papers is an elaborate one by Dr. Letheby, "On Spectrum Analysis, in relation to Chemistry, Pathology, and Medical Jurisprudence." The spectra of the blood, he states, with reference to forensic medicine, are so remarkable, that they become the means of discovering the presence of blood in very minute quantity. After describing the mode of procedure for the spectrum analysis of blood-spots in all cases of medico-legal inquiry, he remarks:—

"It thus appears that a very minute particle of blood may be made to furnish its characteristic spectra; and when, in a medico-legal inquiry, these spectra are compared with the known spectra of blood, treated in exactly the same way as the unspiced matter, the results are very conclusive. In fact there are no real fallacies to the tests; for although many red solutions may produce stains upon clothing like blood-stains, and may give spectra which at first sight appear like one or other of the blood spectra, yet there are none which show all the characteristic appearances of blood under the action of different reagents. Few, indeed, if any, will stand the test of ammonia, which only brightens the absorption bands of blood, while it alters the appearance of other colors; and if there be any doubt in the matter, a little sulphite of potash will remove it, for this bleaches every color which is likely to be confounded with blood. Among the reds which cut off the blue end of the spectrum, and exhibit black bands in the green, that are more or less like those of blood, are cochineal, lac-dye, alkanet, madder-red, and mungeet, dissolved in each case in a solution of alum; but on comparing the spectra side by side with those of blood, it will be at once seen that the bands are not the same, either in their position or character. In the case of cochineal in alum, for example, which is so very like blood that it might almost be mistaken for it, the two bands are nearly of the same width, whereas, in blood, the lower band is always the widest; and the reverse is the case with alkanet in alum. Besides which, none of these colors will stand the action of ammonia. Even the gravy of roasted meat, if it be not from underdone meat, which is more or less modified cruorin, does not give the same spectra as blood; for although it sometimes shows a dark and sharply defined absorption-band, a little below the line (D), like that of reduced cruorin, yet ammonia weakens it, and citric acid, with protosulphate of iron, produces no change in it, as it does with hæmatin. In fact, if the gravy is very dark-colored, and has been strongly heated, it gives a spectrum like No. 1, Fig. 7, without any absorption-bands. There is, therefore, no color, as yet examined, which can, with proper care, be confounded with blood. A few precautions, however, are always necessary to guard against possible sources of error, and to obtain the most satisfactory results" (p. 40).

"As examples of the delicacy of the test, and also of the time which may elapse after the blood has been drawn, before it loses its properties, the following may be quoted:—In the year 1849 I had occasion to make a medico-legal investigation of some blood-stains upon linen, and the specimens, which have been kept from that time to the present, have been recently examined both by Mr. Sorby and myself. The stains were of a brown color, and were quite insoluble in water—showing that the cruorin of the blood had been completely changed into hæmatin; but on treating a piece of the stained linen not larger than a quarter of an inch in diameter, with a weak solution of citric acid, the color was completely dissolved, and there was obtained a pale yellow solution, which, in its acid condition, hardly showed a trace of the characteristic blood-spectrum of oxidized hæmatin. When, however, it was made alkaline with ammonia, it exhibited the two faint bands in the green, which are characteristic of alkaline hæmatin; and on adding a minute fragment of protosulphate of iron, the spectrum of deoxidized hæmatin, with its double band in the green, was well seen. A like result was obtained with another medico-legal specimen of blood, dated 1851, and with some more recent specimens of blood which I have had to examine, as in the case of the Ilford murder, in September, 1865, and of Mr. Briggs in July following, and the Plaistow murder in November of the same year,—in all of which cases the spectra are still very characteristic, although the blood, in every instance, is changed into the insoluble form of hæmatin. It thus appears that the characteristic properties of blood are not lost after a lapse of seventeen years, but that the spectra are still as distinct, and as well marked, as with blood of only a few months old" (p. 42).

Mr. Hutchinson contributes a highly suggestive article on "Herpes Zoster,"—a clinical lecture. He propounds the following "riddle:—" "*Is herpes zoster an exanthem or neurosis?*"

"If an exanthem," he says, "why is it not symmetrical, not attended by constitutional disturbance, and liable to spread by contagion? If a neurosis, why should it not relapse, why should it have stages, and how can it protect the individual against a second attack? There is no other neurosis which can be mentioned (neuralgia, for instance), which is not very liable to return again after cure. My own suspicion is that it belongs to neither of these classes, but that it constitutes a new group by itself; and further, I feel convinced that whoever may succeed in unravelling the mystery which at present surrounds it, must at the same time make a discovery in physiology" (p. 70).

Other important papers by Mr. Hutchinson refer to the results which follow injuries of the nerve-trunks, and injuries to the spinal column and its contents.

Dr. Little communicates an instructive series of notes on the unsuccessful and successful cases of saline alcoholic injections into the veins for the relief of collapse of malignant cholera, treated during the epidemic of 1848-49.

Two cases of poisoning by the external use of belladonna are recorded by Dr. Gosset Brown and Dr. Fraser. In both cases there was considerable mental disturbance, and neither case ended fatally. It was not previously known that the ordinary external use of belladonna might seriously affect the system, and the cases furnish an instructive caution.

Mr. R. Brudenell Carter relates two cases of acute suppuration in the knee-joint, in which recovery with free motion ensued. This singularly favorable result was to be attributed to the use of an ingenious mechanical contrivance for fixing the joint, which is thus described:—

"A splint, as light and thin as was consistent with the possession of the necessary strength, was cut from a flat piece of deal. This splint was long enough to reach from the tuber ischii to the os calcis. At the upper end it was about three inches in width, and it gradually tapered to an inch and a half at the lower end; so that, when in position, it was everywhere overlapped by the limb. It was padded by two or three strips of blanketing, and by a little cushion to fill the ham; and it was secured upon the centre-piece of many-tailed bandage. This centre-piece was somewhat longer than the splint, so as to turn round the heel, and reach along the sole of the foot to the roots of the toes. The tails were rolled up and tacked to two pieces of tape, and the whole apparatus so fastened together, that it could be put into its place by once elevating the limb. The heel and malleoli were then protected by strips of soft leather, spread with lead plaster; the splint was placed in position, and the leg gently lowered down to rest upon it. The pad

under the ham was accurately adjusted, a little cotton-wool placed to fill up any hollows, and then the tails of the bandage were laid down firmly and closely, from the toes upwards, and thoroughly secured by starch. Opposite the knee-joint, two tails on each side were left unstarched; but the starch was again applied above. The unstarched tails were pinned, so that it could be opened to renew some charpie placed over the wound to absorb the discharge. As soon as the starch had hardened, the limb was slung by tapes from a common cradle, so as to move freely from the acetabulum, and to allow the patient to lie in almost any position" (p. 176).

A paper by Dr. J. Langdon H. Down, on marriages of consanguinity in relation to degeneration of race, leads to conclusions modifying considerably those commonly accepted.

"My own researches," writes Dr. Down, "conclusively show that in England, at least, every fourteenth idiot only is the child of cousins. But can it be as certainly shown that the relationship *per se* is the cause of the idiocy? I think not, and the analysis I have made clearly shows, that in the vast majority of such, so great in fact that it may almost be said to be universal, other causes were operating which were merely intensified by the relationship. Had the same care been exercised in the selection of relations as is displayed by the breeder of race-horses, vastly different results might have ensued; or were the practice of the colored races of North America in force, of destroying all the weak, rachitic, and diseased children, the intermarriage of cousins would not have displayed the facts which I have furnished. Consanguinity has doubtless the power of aggravating any morbid tendency, as I believe it has of perfecting any good quality. Any statistics on the results of the marriage of relations are of doubtful value, unless they give the life-history of the progenitors. What a different aspect the whole matter assumes when this plan is adopted, will be apparent to the readers of this paper. Whenever a similar investigation is made, I believe it will be found, as in the subjects of my own inquiry, that consanguinity is only *one* of the factors, and not the most important one, in the production of deterioration."

Dr. Down's conclusions are based upon the careful examination of the histories of 852 idiots.

Dr. J. Hughlings Jackson contributes suggestive papers on certain cases of cerebral hæmorrhage and the functions of the optic thalamus.

The appendix to the volume is devoted to the cholera epidemic of 1866, as seen at the London Hospital.

XXII. — *A Treatise on Emotional Disorders of the Sympathetic System of Nerves*. By WILLIAM MURRAY, M.D., M.R.C.P. Lond., Physician to the Dispensary, and the Hospital for Sick Children, and Lecturer on Physiology in the College of Medicine, Newcastle-on-Tyne. London: J. Churchill and Sons, 1866. 8vo, pp. 118.

In this little book Dr. Murray seeks to establish the relation which exists between the emotions and the viscera through the sympathetic tissues. He maintains two propositions: (1) That the emotions injure the body most commonly by their effects upon the viscera, through the sympathetic system of nerves. (2) That there are disordered states of the viscera which powerfully induce those emotions which are injurious to the body; these effects are produced through a simultaneous disorder of the sympathetic system.

The argument is well sustained; and as an illustration of Dr. Murray's style, we quote the following paragraph from his chapter of general remarks on the *modus operandi* of dyspepsia producing emotional disturbance: —

"It would seem that the digestive tract may be seriously irritated as regards its sympathetic nerves, when no great amount of irritation, in the ordinary sense of the word, exists. Such a paræsthetic, or hyperæsthetic state of these nerves seems to excite morbid emotion rather than pain or other sensations indicative of ordinary irritation in the part, and this is done chiefly by destroying the quality of that *visceral sense*, which is, as we have said, the substratum of the emotional

states. In irritation of these sympathetic nerves then, we see that one of their special functions is at fault; and that function alone may suffer, just as in some affections of an organ of special sense, such as the eye, we find alteration in the special function of its nerve to be the first and only indication of disease.

"We may convey to the reader's mind the best idea of this by referring to an hypothesis which has sometimes served us good purpose in studying these diseases; it refers especially to the manner in which emotions, rather than ordinary sensations, are excited by the sympathetic nerve.

"We will assume that the *Will* excites a force, which manifests itself in muscular movements, and this force, generated in the cerebro-spinal system, *travels along the cerebro-spinal nerves*, and manifests itself in muscular movements of a voluntary nature; again, irritation of the cerebro-spinal nerves is conveyed to the brain, where it is received as a *sensation*. We aver that emotional impulses, on the other hand, *travel along the sympathetic system* of nerves as well as the cerebro-spinal, and so doing manifest themselves in various changes in the functions of the abdominal viscera. Conversely, an irritated or disordered condition of these viscera, producing irritation of their nerves (the sympathetic nerves), does not lead to a sensation of ordinary pain, but to an alteration of the '*emotional sense*,' inducing an *emotional state* different from that of health."

Dr. Murray's work is thoughtful and unpretending, and is an acceptable acquisition in the present dearth of English medico-psychological literature.

XXIII. — *A Practical Treatise on Apoplexy (Cerebral Hæmorrhage); its Pathology, Diagnosis, Therapeutics, and Prophylaxis; with an Essay on (so-called) Nervous Apoplexy, on Congestion of the Brain and Serous Effusion.* By WILLIAM BOYD MUSHET, M.B. Lond.; M.R.C.I., University Medallist in Medicine. London: John Churchill and Sons. 1866. 8vo, pp. 194.

In this work Dr. Mushet states that he has "attempted to extricate apoplexy as a substantive disease from an assemblage of symptoms, *i. e.*, from the multifiform phase of coma. I am strongly impressed," he says, "that the main obstacle to a proper and simple understanding of the affection has been its confusion with every malady attended by unconsciousness, irrespective of pathological conditions; coma (the order) and apoplexy (the genus) having been almost invariably regarded as metonyms, loosely expressing a deeper or more pronounced degree of cerebral torpidity than their absolute and less definite congeners — *caras*, *cataphora*, and *lethargas*."

Dr. Mushet carries out his attempt by a thoughtful criticism of his subject, illustrated by the results of his own observation. As an example of his manner, we may quote the following observations on the presumed influence of variations in the supply of blood to the brain, and disease of the cerebral vessels, as causes of apoplectic seizures:—

"When we reflect that those pursuing the most laborious employments and taking the most violent exercise, as artisans, athletes, runners, divers, children, and what is more weighty, that those suffering from obstructive, simple hypertrophic, and other affections of the heart are not, in early life, prone to true apoplectic seizures, we must admit that simple modification in the conditions of supply of blood to the brain does not *singly* exercise any material pressure or other influence in the causation of apoplexy.

"Having disposed of the circulation within the cranium, and endeavored to argue that irregularity or deficient balance in the venous, arterial, or capillary apparatus is inoperative, *per se*, to induce cerebral hæmorrhage, I shall allude to the important changes which are met with in the vessels, and immediately consider how far these appear to contribute to, or avail in, its production.

"It need scarcely be premised, that most systematic writers are agreed as to the weighty influence of disease of the cerebral vessels and tissue in the production of apoplexy; yet by some, this is not regarded as a necessary concomitant, and, in published works, examples are incidentally quoted or referred to, whose history *a priori* precludes the probability of cerebral or arterial degeneration.

Nevertheless, I am persuaded that if these apparently exceptional instances were minutely detailed and analyzed, they would confirm the doctrine, that in all cases of *primary* idiopathic sanguineous cerebral effusion, disease of the coats of the vessels previously subsists.

"From these remarks, it must not be imputed that I conceive textural alterations in the walls of the arteries to be the sole and efficient ætiological agents in apoplexy, as their frequent presence in subjects of mature and advanced age, without the supervention of any cerebral symptoms, would disprove such view. On the other hand, apoplexy is almost restricted to the afternoon of life, a period attended by degeneration of the vascular tunics. These facts cannot be overlooked; but, for the sake of convenience, I shall defer the discussion of the relationship between disease of the arteries and apoplexy until I enter on the consideration of the changes observed in the cardiac walls and orifices. Albeit, lest hesitation arise in accepting the truth of the *coincidence* of morbid alterations in the cerebral vessels of persons cut off by an apoplectic seizure, it is expedient to affirm that this had been particularly noted by the majority of observers."

As a further illustration we quote the following observations on the diagnosis of cerebral extravasation:—

"In our present state of knowledge it is impossible to localize cerebral extravasation, or always to affirm positively even that hæmorrhage has occurred. In fact, it may be absolutely asserted that sanguineous apoplexy does not furnish one diagnostic, or rather pathognomonic symptom; yet collectively a certain series of objective phenomena, in most instances, will render an opinion tolerably certain. Cases are, however, occasionally presented, which are but slightly pronounced, especially on invasion, and prove very embarrassing. It must in addition be remarked that *all comatose diseases in their last stages simulate true apoplexy, and cannot be discriminated in default of their previous history, which is unfortunately often deficient or absent in patients found insensible and brought to a hospital.* The age may be of some assistance, as cerebral hæmorrhage is not common until after the meridian of life. The condition of the heart, if known beforehand, may also aid us. After the access of the disease this is difficult to examine, and the value of physical signs is doubtful, as coma, from whatever cause, is usually accompanied by oppressed quasi-hypertrophous action of the organ, in consequence of altered innervation.

"*Cæteris paribus*, in a case of coma, the ascertainment of previous temperate habits, non-existence of *arcus*, and the exclusion of cardiac ailment augur favorably. Flushing or pallor of the countenance is an unsafe guide, without due correction, as the face is for the most part pale in the worst or ingravescent attacks, and it may be pallid, with lividity, throughout, if the hæmorrhage be complicated with uræmia.

"The most certain indications of intracranial hæmorrhage are *sudden hemiplegia*, with more or less immediate and profound loss of consciousness—with or without rigidity or convulsion—stertorous breathing, deviation of the mouth, flushed face, and a full slow pulse. Tonic or clonic contraction of the muscles of the limbs frequently testifies to the coexistence of ventricular or arachnoid sanguineous effusion, and general paralysis of the extremities is usually associated with diffuse hæmorrhage or the moribund state. Not any constant or special symptoms (as Gall and Serres maintained) attend apoplectic extravasation into the cerebellum, which may serve to distinguish it from effusion into other parts of the brain. (Brown-Séquard.) In a very circumscribed apoplexy, the slightness or almost negation of symptoms may render a decision difficult or impossible. If an attack, apparently apoplectic, *entirely* subside, *i. e.* without sequelæ, hæmorrhage, if pre-existent, must have been exceedingly limited, and in the immense majority of cases the symptoms will depend, not on hæmorrhage, but on other disorders."

The essay on (so-called) nervous apoplexy, or congestion of the brain and serous effusion, was originally published in the *British and Foreign Medico-Chirurgical Review*, and has been noticed in a previous volume of the *Half-Yearly Abstract*.

We commend Dr. Mushet's well-conceived and executed work to our readers.

XXIV. — *Acholic Diseases ; comprising Jaundice, Diarrhœa, Dysentery, and Cholera. With a preliminary dissertation on Bile, the Biliary Function, and the action of Cholagogues.* By ALEXANDER CHARLES MACLEOD, L.K.Q.C.P.I., M.R.C.P., F.R.C.S., Surgeon-Major in Her Majesty's Madras Establishment. London : J. Churchill and Sons. 1866. Sm. 8vo, pp. 230.

Dr. Macleod sets forth a particular theory of which he claims the parentage. He holds that the different forms of alvine flux named in his title-page—to wit, diarrhœa, dysentery, and cholera, frequently depend upon an insufficient action of the liver. The bile, he maintains, is not, when free in the bowels, an acrimonious and irritating fluid, as commonly supposed, but the reverse. But he believes that a suspension of the function of the liver, with consequent absence of bile, is an inevitable cause of irritation in the intestines, which nothing but a reproduction of that secretion can assuage or remedy. He also believes that this irritation shows itself in various forms, affecting, under different conditions, different parts of the intestinal canal. As a consequence of these views, he endeavors to show that these varying forms of irritation in themselves respectively constitute specific diseases, as dysentery, cholera, and diarrhœa.

As an intercurrent argument, he thinks it probable that the intestinal tube acts vicariously for the liver in certain conditions of suspension of the functions of that organ.

The following is Dr. Macleod's summary of the forms of the disorders referred to :—

"The addition of bile being necessary for a due performance of the assimilative process and the provision of healthy chyle, it follows that every diminution of the needful amount must be followed by a corresponding defect in the work of digestion, of which we are occasionally furnished with striking indications in the character of the *excreta*.

"Thus, when there is a serious deficiency in the supply of bile, we have constipation ; when this has lasted some time, the bowels, irritated by continued contact with 'hyper-cholericized' blood, pour out mucus, converting the previous obstipation into a diarrhœa, an operation explained in the preceding chapter.

"In some conditions of the system, dependent perhaps on malarious influence, the function of the liver appears to be altogether suspended ; a severer form of enteric irritation ensues, succeeded by ulcerative inflammation, and constituting the commonest type of acute dysentery."

"During these temporary suspensions of the liver's functions, it may be assumed that the kidneys, whose office is of so versatile and accommodating a nature, act in a subsidiary way, removing from the blood (in a form proximate or remote, or in both at once), those elements that the liver has failed to convert into bile, and which therefore must tend to accumulate in the blood.

"But whilst the function of the liver is thus temporarily suspended, suppose, from any cause, that of the kidneys is simultaneously arrested.

"We know of only one complete example of this terrible complication, and the result is—CHOLERA" (pp. 59, 60).

To those who delight in curious pathological and physiological theories, Dr. Macleod's book will be an acquisition.

XXV.—*On Surgical Diseases of Women.* By I. BAKER BROWN, F.R.C.S., Surgeon to, and founder of, the London Surgical Home. Third edition, revised and enlarged. London: Robert Hardwicke. 1866. 8vo, pp. 366.

This edition of Mr. Baker Brown's well-known work is enriched with many additional cases. Chapters also are added on retroversion, retroflexion, and antelexion of the uterus, vaginismus and abdominal sections. The last-named chapter is substituted for that on ovarian dropsy in former editions.

The illustrations of the work, drawn on wood by Mr. Isaac Baker Brown, junior, assistant-surgeon to the London Surgical Home, are of unusual merit.

Of the newer matters, Mr. Brown's observations on treatment of displacements of the uterus by incision of the os and cervix, and his remarks on the relationship of vaginismus and fissure of the rectum, will particularly command attention.

XXVI.—*Notes on Health in Calcutta and British Emigrant Ships, including Ventilation, Diet, and Disease.* By W. H. PEARSE, M.D. Edin., Government Emigration Service. London: J. Churchill and Sons. Fcap. 8vo, pp. 160.

This is a most interesting and instructive book, by a gentleman who has had a large experience of the subject of which he treats. The chapter on ventilation is amply illustrated by the tabulated records of its state in various ships, and its tendency is shown in the following paragraphs:—

"The simple facts which I have endeavored to illustrate are, that the foul air of the 'tween deck being hotter than the upper air, it must ascend, and that no system of ventilation can be aught but pernicious which does not provide for this escape as its chief object.

"Table F. shows how great is this difference, even to the amount of 11°. Chimneys suitable for the escape of hot and foul air must be provided, and of such a kind as are adaptable to the greatly varied directions of the winds in which a ship is placed. If the observations I have noted have been justly made, it follows that these chimneys must be at the *two extreme ends* of the 'tween decks, thus meeting the circumstances of the two opposite directions of the wind relatively to the ship.

"One can scarcely lay too much stress on the fundamental importance of means for escape of foul air rather than means for the supply of pure air; yet the latter is very commonly that which is uppermost in the minds of those who have to do with ship ventilation. When chimneys are provided which are so formed as to allow the escape, the ingress down the hatches and skylight tubes of cold, pure, heavy air is tremendous. In the tropics, with the thermometer at 80° or 84°, this ingress is not felt, but when in cooler weather, the great draught down some of the hatches, &c., is most manifest, and the people have to be carefully guarded from its immediate power or shock."

The chapter on Calcutta coolie emigrant ships is full of suggestive facts, deductions and reflections. Thus, Dr. Pearse writes:—

"The coolie is an ill, rice-fed, ague-suffering animal. When launched into the sea climate, his system takes on a change of rate; some of his natural or accustomed (life-dependent) vital acts cease or alter, and thus, in one direction or another, he goes on to show his (so-called) diseases—diarrhoea, dysentery, cholera, cough, &c.—viz., those which must and do happen in or of him, and which in truth are the natural states or tendencies of his body."

Again, in the chapter on the Coolie Emigrant's diet, Dr. Pearse observes:—

"The diet of the native of India is one of the most interesting and suggestive

subjects for study in the whole range of the natural history of the human animal. He does on his most simple foods, sustain the longest fatigues and labors. His 'wind' is splendid; the functions are regular; the animal life is almost perfect. His food appears to be almost the very best for the necessities of nature. It appears, however, as if some one small essential want only was not sufficiently supplied, from which, amongst other material states, arises the tendency to death; the ulceration of mucous membranes, the rapid sinking of the vital powers, in short, the varied deviating phenomena which his life presents. That which is arresting to the mind in the contemplation of the native and his diet is, on the one hand, the great and almost perfection of life and function on such simple and sparse food, and on the other, the sudden and rapid ceasing of life. This tendency to rapid death, which in its different symptoms we call cholera, diarrhoea, dysentery, fever, &c., it appears not unwise to view as the natural course and action of his life and whole history. The sudden and personally appalling phenomena of cholera, &c., are liable to fix the attention on its outer and most prominent symptoms, rather than on the natural course or order. On other parts of nature, to which the human thought has lain itself, or to which man's attention and ideas have lit up, his errors of method have been of the same general order and nature. The vast periods, the actual course of time and evolving existences, and the consecutive necessity and oneness of the order of (so-called) catastrophetic phenomena, with the ordinary overlooked quiet rate of time and events, are forgotten. I conceive that whether we contemplate a revolution in society, the separation of the avalanche, the existence of animals and life on this globe, or the existence of diseases—cholera, &c.—in man, that our first recognition of these facts is that of surprise, but that the reason in its calmness, and humility, and hope, assures itself that such events are secondary phenomena of the greater, and containing necessitous and actual rates of time and matter and 'forms.' Thus, whatever the more potential circumstances of the native's disease may be, the thousands of years on which he has subsisted on a spare, and, perhaps, too same a diet, must form one essential—though, perhaps, of very minor import—fact in the natural history of his passage to death, in those rates which we call cholera, &c., &c. The tenacity of life in other cases, is equally striking; children and adults lingering month after month with diarrhoea, &c., &c. The qualities of the food of this ancient race, must, by such examples, be shown to be near to a just supply for human necessities."

Still again in the same chapter:—

"As I have before compared it, the native dies just as a September leaf falls; fundamentally, it is neither this wind nor that which brought down the leaf, but its period had come, its life was passed, the elasticity, the vital power, was no more in it. So the native may die, whether we call his dying-picture cholera, fever, diarrhoea, dysentery, or syncope. Fundamentally and for a hope of prophylaxis and treatment, we must first view these as his at present (under all the circumstances) natural, and of necessity, tendencies and courses.

"In allowing the mind to dwell on large, or wide, or general views, there is no occasion to lose sight of any clear and contained facts. A state (say cholera) into which races may fall and tend, may or may not give rise to creations of forces, poisons, &c., capable of infecting other men. But whilst it is not only a legitimate inquiry for us, in our present ignorance, to seek any fact which may cause, *e.g.*, this disease, be it in water, air, clothes, electricity, &c., it is not less important to remember that cholera, in a large, historical point of view, shows itself, or rather that men show it, at periods whose rates and dates of returns are not yet clear to us, and that it may be, and is, in the very nature of individual life, and therefore of races, to show long periods of vigor and health, with associated and equally of necessity breaks in that course. The so-called disease is as true, and natural, and necessary a phenomenon as is the period of vigor. The actual progress in time, of inorganic or organic existences, or in human history, is not truly seen until we, with equal clearness, recognise the general course, the developmental directions, periods, and times, and the directions of ceasing. Of these latter (hypothetically) may be cholera, diarrhoea, dysentery, in the natives of India. It will be the glory of some one to see that want which the natives' system does not get. Already the agriculturist supplies to the soil these wants which his failing plants need. The potato in Ireland, the vine in Madeira, had a cholera of some kind, and so the September leaf."

Dr. Pearse's unpretending book contains the material for a much more pretentious work.

XXVII.—*The Inductorium or Induction Coil ; being a popular explanation of the Electrical Principles on which it is constructed, with the Description of a Series of beautiful and instructive Experiments illustrative of the Phenomena of the Induced Current.* By HENRY M. NOAD, Ph.D., F.R.S., Lecturer on Chemistry at St. George's Hospital. 2d edition. J. Churchill and Sons. 1866. Fcap. 8vo, pp. 109.

This is simply an elaborate catalogue of the instruments of a special character, made and kept in stock by an ingenious philosophical mechanist. As a popular treatise on the induction coil, it is most defective and unsatisfactory ; and its imperfectness in relation to the induction coil instruments used for medical purposes would be altogether inexcusable if it were not for the special object of the work to deal with the instruments of one maker only.

XXVIII.—*On Malignant Cholera : its Origin, Pathology, Treatment, and mode of Prevention, with the occupations of 5568 males over twenty years of age that died in London in 1849, 1853, 1854, and 1866 ; with an Appendix on Cattle Plague as compared with Cholera and other human maladies ; its history, pathology, treatment, and future prevention. A Letter on Homœopathy ; its false inferences and hollow assumptions. With an Essay on the present state of the Medical and Veterinary Professions in this Country.* By EDWARDS CRISP, M.D., M.R.C.S., L.A.C. London : Robert Hardwicke. 1866. 8vo, pp. 135.

The title of Dr. Crisp's book sufficiently explains its contents. The general conclusions at which he has arrived concerning cholera are thus summed up :—

"1. That cholera is a disease occasioned by a specific poison that affects first the nervous centres, paralyzes the heart and the most important organs of secretion, the liver and the kidneys ; disorganizes the intestinal secretory apparatus, disintegrates the blood, thereby allowing a large portion of its serous constituents to escape from the system.

"2. That the assertion that the anæmic condition of the lungs, and the consequent sinking in cholera, depends upon spasm of the pulmonary arteries, is not founded upon correct physiological inference nor upon pathological proof.

"3. That the belief that the vomiting and purging are efforts of nature to get rid of the morbid matter from the system has little or no real foundation, and that the general adoption of the so-called eliminative or aperient treatment in the early stage of cholera is likely to lead to injurious results.

"4. That, judging from the occupations of 5566 males dying in London in 1849, 1853, 1854, and 1866, over twenty years of age (some of them engaged in the most dirty and filthy employments), occupation alone exercises but little influence in the production of the malady.

"5. That there is every reason to believe that under certain circumstances cholera is a communicable disease, but to a much less extent than small-pox, scarlatina, and other zymotic affections.

"6. That, bad water, improper food, a vitiated atmosphere, want of cleanliness, intemperate habits, fear, the incautious use of aperient medicines, and other depressing agents, all act as predisposing and exciting causes of the disease.

"7. That the general belief that cholera is a disease confined especially to the poor and destitute is entirely disproved by the statistics that I have adduced.

"8. That the great majority of cholera cases, when seen at the onset in the first

stage of choleraic diarrhoea, are for the most part readily under the control of opium, combined with astringent medicines.

"9. That, judging from our present knowledge, the calomel treatment when commenced early in the second stage of cholera and properly carried out offers the best chance of cure, but that, like every other medicine, in many cases it appears to have no salutary effect.

"10. That, as shown by my experiments, cholera evacuations produce no injurious effect upon fishes, reptiles, birds, and quadrupeds; and that, from the evidence I have adduced, the lower animals and the members of the vegetable kingdom during cholera epidemics in this country have been as healthy as usual."

The latter portion of Dr. Crisp's work consists mainly of a series of letters addressed to the Lords of the Privy Council on the cattle-plague. Dr. Crisp publishes them verbatim because he is "anxious that they should form a record of the outbreak of rinderpest in this country, and of the tardy and inefficient steps taken by those in authority to stamp out the pestilence at an early period."

XXIX.—*On Diseases of the Respiratory Passages and Lungs, Sporadic and Epidemic. Their Causes, Pathology, Symptoms, and Treatment.* By WALTER GOODYER BARKER, M.B. Lond., Senior Medical Officer to the Worthing Infirmary, &c. London: J. Churchill and Sons. Sm. 8vo, pp. 282.

The object of this work, Dr. Barker tells us, is to illustrate the causes of lung-diseases, both sporadic and epidemic, which in these climates are of all others the most frequent and fatal; and he fears that from the very simplicity of these causes, they will fail to convince. He seeks to show that the pulmonary disorders of which he treats, occur in a direct relation to the exposure of the part affected to the outer atmosphere, and to its fluctuations. Thus coryza, bronchitis, and pneumonia occur in a proportion having a marked relation to the exposure of the Schneiderian membrane, the bronchial mucous membrane, and the more remote tissue of the lungs to the outer atmosphere.

As a further proof of his propositions, he adduces pleurisy. "Of all the diseases of the respiratory apparatus," he writes, "this is the least frequent, and as a rule, may be altogether prevented by appropriate clothing; and the reason is equally obvious, namely, that the pleural sac is entirely unexposed to the immediate contact of the external atmosphere."

Widening his field of observation, Dr. Barker endeavors to explain the atmospheric conditions under which cholera, fever, and zymotic diseases generally, are developed; also to show that the great dynamic agent in the production of these diseases is an elevated temperature. Dr. Barker's book will be read with interest.

XXX.—*On Diseases of the Veins, Hæmorrhoidal Tumors, and other affections of the Rectum.* Entirely re-written. By HENRY LEE, F.R.C.S., Surgeon to St. George's Hospital, &c. Second Edition. London: J. Churchill and Sons. 1866. 8vo, pp. 190.

This book will be consulted with no little profit. It is full of suggestive thought and practical lessons. Mr. Lee first describes the different affections which have been described at one time or other under the name of phlebitis. These he states are three distinct varieties of thrombosis, two of which, the earliest cited in the accompanying paragraphs, have no connection with disease of the venous coats. These varieties Mr. Lee thus describes:—

"1. A spontaneous coagulation of the blood within the vessel, unconnected with the entrance of any extraneous material. This may take place in several cachectic

states of the body, wherein there is a diminished force and movement of the circulating fluid, conjoined with anæmia, and an absolute or relative increase in its fibrinous constituent. Such are the cases delineated by Dr. Richardson and Mr. Humphrey.

"2. A coagulation induced by the entrance of some abnormal material into the venous current, and its action upon the circulating fluid.

"8. Coagulation caused by irritation, injury, or any disease affecting the venous coats themselves. Here the blood coagulates by virtue of some morbid impression made upon the vessel, which may be accompanied by injury to, roughening, elevation, or ulceration of its lining membrane" (p. 17).

Mr. Lee next proceeds to discuss these different varieties and their treatment in detail, and respecting the latter, and with particular reference to purulent infection, he directs particular attention to Dr. Polli's experiments with the alkaline sulphites. He adds, however, that "if the results obtained by Dr. Polli and others be verified by clinical experience, *then* the merit of the discovery [the apparent neutralization of morbid ferments in the blood of living animals without altering it in a manner incompatible with life] can scarcely be over-rated. This, however, remains to be seen, and learning by every day's experience, the author would desire above all things to avoid all eulogistic or exaggerated terms" (p. 73). In a foot-note, Mr. Lee expresses the opinion that, although the alkaline sulphites may prove useful in cases of putrid infection of the blood from the injection or absorption of decomposing agents, they will not be of much use in the ordinary forms of pyæmia.

Mr. Lee describes a special operation for varicose veins and varicocele, and he then proceeds to discuss, in more or less detail, some diseases of the rectum, particularly hæmorrhoids, polypi, and morbid states of the sphincter. On the treatment of hæmorrhoidal tumors by nitric acid, Mr. Lee has the following observations:—

"The benefit derived from this plan of treatment must not be expected till the small ulcers made by the caustic begin to heal. The loose folds of mucous membrane are then drawn upon, and the whole of the mucous lining is rendered more tense. Each small cicatrix, moreover, serves as a permanent point of attachment for the relaxed membrane, and consequently the inner coat (which alone descends in such cases) is retained permanently in contact with the other coverings of the bowel.

"The degree of pain experienced in this operation depends in a great measure upon the way in which the nitric acid is applied. The sensibility of the thin skin around the anus is very great; and if the acid be allowed to come in contact with it, the degree of pain is very considerable. If care be taken, on the other hand, to confine the application of the acid to the comparatively insensible mucous membrane, extremely little pain is caused. Nitric acid should never, therefore, be employed in cases of external hæmorrhoids, both because of its painful action on the skin, and because it is not the remedy required, that being excision by the knife or scissors.

"In the application of nitric acid to hæmorrhoidal tumors, the degree of irritation experienced in some measure depends upon the extent of surface involved in the operation. When therefore a considerable amount of the mucous membrane descends with the tumors, it is desirable to select certain portions, to which the application of the acid should be confined. The action of the acid may be limited, either by applying a small quantity at a time, or by shielding the surrounding surface with a paste made of chalk and water.

"The best mode of effecting this object is, however, to apply the nitric acid through a small speculum with an aperture in its side. Through this aperture the mucous membrane or pile will protrude, and may be effectually destroyed. As soon as this is accomplished, the surface should be smeared with the paste made of chalk and water, and the speculum withdrawn. So little inconvenience does this give, that the patient is generally not aware that the acid has been applied.

"Every portion of mucous membrane to which the acid extends should be as completely deprived of vitality as possible, since the degree of pain experienced will necessarily depend upon the remaining sensibility of the parts.

"Unless these conditions are observed, the application of nitric acid, or of any

other caustic, to the mucous membrane of the rectum, may prove as serious an operation as that for which it is intended as a substitute.

"The acid used in such cases should be the strongest that can be procured. That which is usually kept by chemists under the name of the strong nitric acid does not effectually destroy the surface to which it is applied; and when used, it therefore produces more pain than the strongest acid, and cannot moreover be so certainly relied upon to accomplish the intended purpose" (pp. 106-108).

The work terminates with an account of some restorative operations connected with the rectum.

XXXI. — *Guy's Hospital Reports*. Edited by C. HILTON FAGGE, M.D., and ARTHUR L. DURHAM. Third series, Vol. XII. London: J. Churchill and Sons. 1866. 8vo, pp. 684.

The present volume of *Guy's Hospital Reports* is unusually rich in matters of interest.

Mr. J. Cooper Foster discusses the cases of hydrophobia admitted into the hospital since the year 1831. In some preliminary observations, he refers to a growing belief that cases of this disease have been more frequent of late, and he thinks that there may be some foundation for this belief. On the frequency of dog-bites he has the following remarks:—

"Attempts have been made to show that bites from dogs are more frequent now than formerly; we can only give the numbers for two and a half years at *Guy's Hospital*; and this cannot be said to show much, except that dogs (and not dogs only) are accustomed to bite. In the year 1864, 51 cases of dog-bites were brought to the hospital; 6 were bad enough to be admitted. In the year 1865 there were bites from dogs 47; and from horses, men, women, donkeys, a cat, a rat, and a fox, 15; in all 62. In the first six months of the present year there have been 46 cases of bites from dogs and 9 from other sources, 13 of which occurred in March and 13 in June. That the numbers of bites from animals have increased, therefore, is apparent, but whether the creatures were rabid or not it is impossible to say. We do not appear to gather much from these reports.

"In no one case yet have we seen the original bite and the patient subsequently affected with hydrophobia. The fact of our witnessing a larger number of bites during the last year or two than formerly is probably owing, as is a general increase in accident cases, to the removal of *St. Thomas's Hospital*.

Mr. Foster endeavors to throw some light upon the question of the length of time between the bite and the appearance of hydrophobia. He thinks that we may draw some such conclusions as the following:—

"1. That when a bite has occurred on the face a rapid appearance of the disease may be looked for; that a few weeks, probably four or five, will elapse before evidence of it is shown, and therefore that if those few weeks pass over safely, an immunity from the malady may be expected.

"2. That when the bite has taken place on the hand a still longer time, from five weeks to a year at least, must be looked forward to with much anxiety. It may be that in the single case among the ten in which a year elapsed before hydrophobia occurred there was some special reason for the delay; to this we shall advert when speaking of the treatment.

"3, and lastly. That when the clothes have been bitten through before the skin is injured some years may pass ere the disease occurs.

Dr. James A. Salter contributes an interesting article on the teeth as passive organs of speech.

Dr. C. Hilton Fagge and Dr. Thomas Stevenson give the results, in an elaborate paper, of an experimental examination of the application of physiological tests for certain organic poisons, and especially digitaline. The following are the chief conclusions derived from the investigation:—

"We have found that digitaline, when injected beneath the skin of frogs in the proper quantity, produces three effects with almost absolute certainty. These

effects are — (1) a peculiar form of irregularity in the heart's action; (2) stoppage of the ventricle in the white, contracted state; and (3) retention of the voluntary power for at least 15 to 20 minutes, and often for a much longer time, after the heart has ceased to beat. All these symptoms have unmistakably been produced by extracts of complex organic liquids to which digitaline had been added before extraction, as well as by extracts of fluids which had been vomited by dogs poisoned with this substance, or which were found in the stomachs of these animals after death.

"Again, it does not appear that there is much difficulty in distinguishing the effects of digitaline from those of other agents which are poisonous to frogs. No substance which is to be obtained in this country, with the exception of squill, the *Helleborus viridis*, and perhaps the *H. niger*, is known to exert the same action. Of these, squill is most unlikely to be used as an instrument of murder or suicide; and the *Helleborus viridis* might, perhaps, be distinguished from digitaline by its purgative effects on man, and possibly, also, by the greater rapidity of its action upon frogs. Of course, however, we should not be justified in assuming the presence of digitaline, rather than the helleborus, in an extract of unknown composition which we found to produce the characteristic action on the frog's heart, merely because these effects occurred after a longer interval than when a pure extract of the helleborus has been administered.

"With reference to the toxic action of extracts of vomited matters and gastric contents, it does not appear that their effects are ever very similar to those of digitaline. The fact that these extracts are poisonous to frogs, while they are not at present known to be injurious to the higher animals, might be urged as a reason for discarding frogs as the subject of physiological experiments in medico-legal inquiries. We have not, however, been led to this conclusion. We have already given the reasons which induced us originally to employ frogs for this purpose; and the experiments which we have made on dogs have convinced us that the symptoms of poisoning by digitaline in these animals are far less definite and far more difficult of accurate observation than those produced in frogs.

"Unless some points of distinction should hereafter be discovered, the similarity between the effects of extracts of vomited fluids containing no toxic agent and those of *Veratrum viride*, staphysagria, and other vegetable poisons, will be a bar to the detection of these poisons by their physiological action.

"At present, too, we regard it as very doubtful whether the action of aconitina on the frog is so characteristic as to be available for the discovery of this alkaloid.

"On the other hand, we have not in any instance observed tetanic spasms to be produced by any substance which was not already known to excite such spasms in frogs. In our experiments, as in those of other investigators, veratria and theine have caused tetanic spasms when given to these animals. But no one of the other substances which we have already enumerated, nor any one of the extracts of gastric contents or vomited matters, has been noticed to produce this effect.

"It is true that, as the frogs were at first tied down, we had not very good opportunities of observing such spasms; but there is no reason to suppose that we ever overlooked their occurrence, and we therefore think that our experiments, so far as they go, give increased stability to the 'frog-test' for strychnia."

In certain observations on the pathology of some of the Diseases of the Nervous System, also in a paper on Functional Disease of the Nervous System, Dr. Wilks discourses very instructively. For example, on a question of present interest he writes:—

"With regard to the loss of speech in right hemiplegia, I need scarcely say that my observations accord entirely with those of Dr. Hughlings Jackson, although the true explanation of this remarkable circumstance has yet to be discovered. It cannot be believed that the organ of speech is originally situated on one side of the brain only, and thus the explanation must be sought in some secondary cause. My colleague, Dr. Moxon, has offered a very good theory, which probably has much truth in it; it is to the effect that of the two halves of which the body is made up one is more especially educated, and that the other follows the movement by consent. This phenomenon, which appears so remarkable, is probably merely one instance of a general law of our bodies which has hitherto been overlooked; so far from being exceptional, I believe it to be only one example amongst numerous others, which shows how partial is the education of our muscles. In the case of writing, the fact is so evident that we have never thought of its importance in

reference to the physiology of the brain: as most persons write with their right hand, a hemiplegia on this side deprives them of the power to write, whereas a similar affection of the left side has no such effect. Now, when we consider that the mechanism by which writing is performed is entirely the product of education, and that the various movements are guided by nerves which are themselves under the influence of the brain, it becomes evident that one side of the brain only obtains the guiding power. Hence, were it possible for the halves of the brain to be changed over, so that the limb should retain its activity, the power to write would, I take it, still be wanting. It might, of course, be acquired, and thus our hemiplegic patients again learn to talk as they did in infancy. It is probable that for those operations in which we can use both sides of the body equally, both sides of the brain have been educated alike; but since in many acts one side rather than the other has been put into use, it has followed that one half of the brain has been specially educated. As regards the movements of the limbs, this is self-evident, but it now seems to be equally true of the power of speech, and it may be true, likewise, of many other operations, as, for example, musical performances. So again, with reference to the eye; I have heard of a man who was in the habit of using a theodolite with the right eye, and who could not employ the left for this purpose, although the sight was equally good.

"There seems to be different degrees of loss of speech. Thus, in some cases there is a mere inability to articulate, whilst the patient is able to write; in others, a loss of memory of words until they are suggested; and in yet others a total forgetfulness of names, the patient giving every thing a wrong appellation. It would be important to know whether these different symptoms are associated with distinct lesions; at present it is thought that loss of speech is associated especially with some disease in that part of the brain known as the island of Reil; and yet, at the same time, it is said that the loss of speech is nearly always connected with a hemiplegia. It follows, therefore, that, unless disease in the spot just named is sufficient to produce a hemiplegia, there must be an affection of the centres, extending towards the external parts.

"In all the cases which I have myself seen, and, if I remember rightly, in those which have been recorded by others, there has been disease in the central ganglia, and I take it that this is necessary for the production of a hemiplegia. But the question remains, is it necessary that disease should advance beyond these parts in order to cause the loss of speech? According to the theory of the education of the one side to the disparagement of the other, a simple loss of power is all that would be required to produce this symptom; and if, as a matter of fact, loss of speech accompanies all right hemiplegia, then assuredly, a small spot of disease in the central ganglia is sufficient. It may, indeed, be thought that a further extension of the mischief outwards to the gray matter of the hemispheres (especially in the region of the island of Reil) is essential to the further loss of all memory of words; and, on that supposition, we should be on the watch for cases in which this part is injured independently of the centres, and in which loss of speech would, perhaps, exist without any corresponding hemiplegia. Cases of loss of speech certainly occur without a paralysis of the limb, but I am not aware that they have been shown to be due to disease in the island of Reil. I have on more than one occasion seen loss of speech with right hemiplegia where the lesion was confined to the centres, but in these cases I believe that the failure of speech proceeded no further than an inability to articulate. Aphonia may also occur from disease in the pons Varolii, and I have thought that, by noting accurately this symptom in cases of disease lower down in the motor tract, we might obtain a proof of the importance of the anterior lobe in the production of speech. For example, a lady had disease in the pons Varolii; her tongue and soft palate were paralyzed, so that she could not utter a word, but she could write down accurately all her wants. On the other hand, I am now seeing a patient who has somewhat similar symptoms, denoting a disease of the pons, and who has loss of speech; but before this was complete, and when she spoke intelligibly enough to make herself understood by her husband, she called things by their wrong names. The cause was clearly not in the brain proper, for the temporary paralysis which she at first had was on the left side.

"If we believe that, for the production of a persistent hemiplegia, some part of the motor tract must be involved—if we find that in nearly all these cases of loss of speech with paralysis of the right side, one of the central ganglia is affected—and if we also adopt the theory that this peculiarity is due to the education of one

side alone—these facts would imply simply that the muscles of the tongue and palate had never learned to act in a certain definite manner; but whether the memory of words, being independent of the mechanism by which they are formed, requires another locality for its action, is very doubtful. This anatomical and physiological question merges into the old metaphysical one as to how far the idea must correspond with the outward sign. I apprehend that, according to Dr. Jackson's supposition, a disease of the left corpus striatum would necessitate a loss of the power of articulation, and, if it also involved the neighboring cineritious structure, would likewise destroy the faculty of speech; while if the latter were the only function affected it would be surmised that that surface about the island of Reil was alone affected."

Again, of another question, or rather series of questions, now occupying much of the attention of English physicians, Dr. Wilks has the following remarks, which we cannot forego:—

"*Diseases of the Cerebellum.*—With reference to this part of the brain morbid anatomy has unfortunately as yet taught us but little; the diseases of this organ have not given rise to any symptoms so characteristic as to indicate their seat.

"Physiologists infer from experiments on the lower animals that it is the function of the cerebellum to harmonize and co-ordinate the various movements; so that, when an animal is deprived of this organ, it staggers like a man when intoxicated. They believe that without a cerebellum we should still have the power of movement, but that we could not walk steadily, move our hands with regularity, nor eat with propriety. Seeing that all physiologists make positive statements with reference to this matter, it is certainly remarkable that this view is not supported, so far as I am aware, by a single clinical fact. We are, no doubt, acquainted with diseases attended with a tottering in the gait, and a want of control over the movements of the body. Such is the disease known as Duchenne's paralysis, which (according to this author's definition) consists in a 'progressive abolition of co-ordination of movement, and an apparent paralysis contrasting with the integrity of the muscular force.' With this titubation (to adopt the new expression) we should suppose a disease of the cerebellum; but this is not the case. It is the spinal cord which is said to be the part affected in this malady.

"It may be that in cases of disease of the cerebellum the patient is too ill to attempt to walk, so that his want of co-ordination escapes observation. But in none of the cases in my books have I observed anything more than a desire to lie quiet in bed, and an anxiety to be let alone, and these are common symptoms in other cerebral diseases. A boy was lately under my care in the hospital with an abscess in the cerebellum connected with disease of the temporal bone; this boy was so weak that he could scarcely stand. The same thing was observed in a girl affected with a similar disease. Hence, if it were simply said that a removal of this organ diminishes the muscular power, no facts gained in the wards of the hospital could be mentioned in contradiction. Dr. Gull had for many months under his care a child with a tumor in the cerebellum; this child was blind, but quite sensible. He was too weak to stand, and answered questions very slowly, the words being drawled out in such a deliberate manner that it seemed as if the end of the sentence would never be reached. In this case there was also large ventricular effusion.

"My belief is that in these cases there has been either much loss of power or at least an indisposition to move; and I have never witnessed a case in which the power was present, proper control being alone wanting. In like manner, my cases in no way corroborate another opinion, that the cerebellum is the organ of sensibility. Disease of this part does not in any way affect the intellectual powers. Andral remarked this many years ago with reference to tumors."

Mr. Edward Cock describes a new method for establishing a communication between the bladder and the exterior of the body when the urethra has become impermeable. It is the last resource in certain cases—cases where the bladder must be got at somehow to save the life of the patient, and where yet it cannot be reached, either by ordinary catheterism, through the urethra, or by tapping above the pubes or through the rectum. Mr. Cock calls the operation he suggests "tapping the urethra at the apex of the prostate, unassisted by a guide-staff." The mode of performance is thus described:—

"The only instruments required are, a *broad* double-edged knife, with a very sharp point; a large silver probe-pointed director, with a handle; and a canula, or a female catheter modified so that it can be retained in the bladder.

"The patient is to be placed in the usual position for lithotomy; and it is of the utmost importance that the body and pelvis should be straight, so that the median line may be accurately preserved. The left forefinger of the operator is then introduced into the rectum, the bearings of the prostate are carefully examined and ascertained, and the tip of the finger is lodged at the apex of the gland. The knife is then plunged steadily but boldly into the median line of the perineum, and carried on in a direction towards the tip of the left forefinger, which lies in the rectum. At the same time, by an upward and downward movement, the vertical incision may be carried in the median line to any extent that is considered desirable. The lower extremity of the wound should come to within about half an inch of the anus.

"The knife should never be withdrawn in its progress towards the apex of the prostate; but its onward course must be steadily maintained, until its point can be felt in close proximity to the tip of the left forefinger. When the operator has fully assured himself as to the relative positions of his finger, the apex of the prostate, and the point of his knife, the latter is to be advanced with a motion somewhat obliquely either to the right or the left, and it can hardly fail to pierce the urethra. If, in this step of the operation, the anterior extremity of the prostate should be somewhat incised, it is a matter of no consequence.

"In this operation it is of the utmost importance that the knife be not removed from the wound, and that no deviation be made from its original direction, until the object is accomplished. If the knife be prematurely removed, it will probably when reinserted make a fresh incision, and complicate the desired result. It will be seen that the wound, when completed, represents a triangle; the base being the external vertical incision through the perineum, while the apex, and consequently the point of the knife, impinges on the apex of the prostate. This shape of the wound facilitates the next step of the operation.

"The knife is now withdrawn, but the left forefinger is still retained in the rectum. The probe-pointed director is carried through the wound, and, guided by the left forefinger, enters the urethra and is passed into the bladder. The finger is now withdrawn from the rectum; the left hand grasps the director, and along the groove of this instrument the canula is slid until it enters the bladder.

"The operation is now complete, and it only remains to secure the canula in its place with four pieces of tape, which are fastened to a girth round the loins. There will probably be no escape of urine until the stilette is removed from the catheter."

The necessity of micturating through the perineum, Mr. Cock observes, may seem a considerable hardship, but he points out that the inconvenience is not very great, and that it is to be remembered that the man's micturition is merely assimilated to that of the other sex.

Dr. Pavy reports a case of *vittigoidea plana et tuberosa*; and Mr. Joseph Towne discusses the physiology of binocular vision.

Dr. Habershon offers some clinical remarks on the treatment of diseases of the heart. The principles of treatment he lays down and discusses in succession, are—1st. To lessen the work of the heart; 2d. To insure regularity of action; 3d. To lessen the distention of its cavities; 4th. To prevent syncope; 5th. To strengthen the muscular fibre of the heart; 6th. To hinder the fibrillation of the blood in the heart and great vessels; and 7th. To prevent secondary complications, and to relieve them when produced.

Dr. Habershon also reports a case of abdominal tumor.

Dr. Alfred S. Taylor contributes a detailed report of twelve cases of poisoning apparently from the use of copper for culinary purpose; Dr. Gull an account of a case of intermittent hæmatinuria; and Mr. Birkett, observations and cases illustrative of the practical surgery of new growths and tumors.

In a paper on the Urine in Acute Rheumatism, Dr. Thomas Stevenson arrives at the following conclusions:—

"1. In acute rheumatism, when the excretion of solid materials in the urine is large, the patient makes, other things being equal, a rapid recovery; on the other hand, in lingering cases the excretion of solids is usually small.

"2. As in this disease the urine is invariably scanty in bulk, but (generally from this cause only) of high density, a useful guide to the progress of the case may probably be found by diluting the urine to the normal bulk, and then ascertaining its specific gravity. According as it is now of high or of low density will the progress of the disease probably be favorable or unfavorable.

"3. Though the excretion of urea is usually greater during the height of the disease than during convalescence, this is not invariably the case; the reverse sometimes occurs. Though the excretion of urea is greater during the disease than during the early stage of recovery, the urea in the former stage seldom very much exceeds in amount the normal physiological excretion.

"4. The uric acid is always much increased whilst the disease continues.

"5. The phosphoric acid is generally in greater amount during the progress of the disease than during recovery, but the quantity of this substance rarely much exceeds the quantity secreted in health.

"6. The excretion of sulphuric acid is generally increased, and often largely. In one instance more was excreted during recovery than during the acute stage of the disease. The amount of this substance excreted is very variable."

A case of excision of the spleen for an enlargement of the organ attended with leucocythæmia is put on record by Mr. Bryant; and a remarkable case of spontaneous cure of aneurism of the aorta by Dr. Moxon.

Dr. Owen Rees illustrates the treatment of acute rheumatism by lemon-juice in a series of cases. He states that complications, especially of the heart-membranes, scarcely ever occur during the lemon-juice treatment, and that when present in the cases they have existed before the exhibition of the remedy.

Dr. Henry G. Sutton makes a further report of cases of acute rheumatism treated by mint-water, with especial reference to the natural history of the disease. The results are thus stated:—

"Of twenty-nine cases of rheumatic fever admitted into Guy's Hospital during the last year, in sixteen there was evidence, on admission, of heart-disease. Of these sixteen, eight appeared to have mitral disease on admission, and the same when discharged. Four of the sixteen appeared to have aortic valve disease (or there was a systolic murmur at the base, which was carried along the aorta). In the remaining four there was a murmur on admission, which disappeared as the patient became convalescent. In one case there was an anæmic murmur. In one fatal case there was early pericarditis. In one case there was no murmur on admission, but one was developed within two or three days, it appeared to be due to pericarditis, and in the same case a mitral murmur was heard when the patient was convalescent. In ten cases there was no murmur heard, either at the time of admission, during treatment, or during convalescence.

"Twelve of these twenty-nine cases were treated with lemon-juice; seven with mint-water; three with mint-water and a little opium; three with the fixed alkalies; two with alkalies and lemon-juice; one with blisters. One patient was kept in blankets, no medicine being administered.

"Of the ten cases in which the heart was free from any bruit, five were treated by lemon-juice, two by alkalies, one by blisters, one by blankets, one by mint-water.

"It may be noticed that in only one case was a bruit developed while under treatment, which may suggest the question as to whether it is common in hospital practice to find heart-disease developed while under treatment.

"It seems to be far from common according to the experience of physicians who advocate different systems of cure. But it appears to us, that until it is decided what is the proportion of cases which escape heart affection with treatment by rest and light diet only, it will be very difficult to decide as to the amount of influence any system of cure has exercised in preventing such disease.

Other papers are as follows:—Notes on Cases connected with Obstetric Jurisprudence, by Dr. J. Braxton Hicks; Select Clinical Reports, by the late Dr. Barlow; Cases of Operations on the Larynx, by Mr. Arthur Durham; On Diseases of the Retina, with Remarks on its Structure and Normal Conditions, by Mr. C. Bader; and Clinical Remarks on Perforations and some other Morbid Conditions of the Membrana Tympani, by Mr. James Hinton.

XXXII. — *St. George's Hospital Reports*. Edited by JOHN W. OGLE, M.D., F.R.C.P., and TIMOTHY HOLMES, F.R.C.S. Vol. I. 1866. London: J. Churchill and Sons. 1866. 8vo, pp. 444.

The St. George's Hospital medical staff is following the excellent example set by the staffs of Guy's, St. Bartholomew's, and the London Hospitals. The first volume issued under the joint editorship of Dr. J. W. Ogle and Mr. Timothy Holmes, abundantly shows that, as was to have been anticipated, another rich mine of clinical observation is opened out. The contents of the present volume are varied, and full of instruction. An exceedingly interesting account of St. George's Hospital and Medical School, by Dr. Page, very properly opens the volume. This is followed by the first of a series of contributions to the surgery of the head, the present paper being devoted to deviations of the base of the skull in chronic hydrocephalus, by Mr. Prescott Hewitt. Mr. T. Holmes next relates a case of meningocele in the occipital region, which was injected with iodine without ill consequences, the patient dying of broncho-pneumonia. Dr. R. E. Thompson contributes a report on the typhus epidemic of 1864-5, as observed at St. George's Hospital; and Dr. Clifford Allbutt, physician to the Fever Hospital, Leeds, gives an account of the same epidemic as seen in that town.

The following observations from Dr. Thompson's report, as treating a great question of hygiene, are noteworthy. He writes:—

"The generation of the fever-poison was traced, with some plausibility, in most cases to overcrowding. Families were seized with the fever who, it was ascertained, slept, four, five, or seven in a room unfit for such a number. In isolated cases, where no previous case of fever was known to have existed, the same cause seemed to have given rise to the disease. A policeman was admitted who slept in the station with seven others, the beds being so close together that they could be easily touched by the arm. Other solitary cases were admitted from asylums and refuges where close packing existed.

The disease was communicated to ten persons in the hospital; of these five were patients; the others were three nurses, myself, and the night-superintendent—a most active and intelligent woman, whose loss was very much regretted. Out of these ten cases, two nurses, one patient, and the night-superintendent died. It will be well to mention that there is no special fever-ward in this hospital; the cases were mixed indiscriminately in the wards. And as the question of separation or admission of fever cases into the general wards of an hospital is one of much importance, a table has been drawn up, giving the cubical contents of each ward, the number of fever-cases admitted, and the number of persons to whom (and in what ward) the fever was communicated.

"The patient who died of fever caught in the hospital took it from a single patient in a surgical ward, and is therefore not included in the table.

"To meet the exigencies of such an epidemic, where numerous cases of one kind are brought in, a special ward is, no doubt, best adapted; but for ordinary occasions there is much in favor of admitting fever cases into general wards; but this precaution should be observed, that they be put at the end of the ward, and that other patients be strictly prevented access to them. By multiplying the foci of fever in a special ward, the risk is very much enhanced for a patient in whose case an error of diagnosis has been made, and for the medical officers who attend the special ward; and unless each kind of fever has its own ward, what immunity can be expected for patients variously affected? One of the patients who caught the fever in the hospital was originally admitted with measles; this was followed by scarlatina, and this again by typhus. Another patient, in like manner, originally admitted with scarlatina, was attacked by typhus; and a man admitted with typhus, at the end of 1864, subsequently died from a second attack of the fever. There is not a little difficulty in admitting statistics in the matter: it is easier to obtain evidence of the number of cases in which fever has been communicated in the hospital, than to collect the numbers of cases in which errors of diagnosis have been made, and in which the patient has contracted the fever in special wards; and, in addition, to estimate the increased risk to medical officers and nurses which such special wards afford."

The subsequent observations on the treatment of the disease, by Dr. Allbutt, will also be read with interest:—

"It is difficult for me to say, without apparent exaggeration, how important a part I believe opium to play in our remedial system. We date a marked decrease of our mortality from the day that the windows were all thrown open; on which day also an order was given that no patient was to pass two sleepless nights running, if opium could prevent it. One year ago I looked upon opium in fever with much suspicion, granting its occasional value only, and greatly restricting its use. Gradually my fear of the restlessness overpowered my fear of the opium, and I have now ceased to regard the latter with any great apprehension. Continually I have witnessed the terrible havoc which a night's tossing makes in a little reserve of strength. Two such nights reduce it to a most precarious level, and few patients outlive three. On the other hand, though I and my assistants have for six months been giving morphia at all stages of the fever to combat sleeplessness, I have never yet seen mischief result. I have never seen the power of taking food suspended by it, or the oppression increased. On the contrary, I have continually seen with pleasure how, on the morning after opium has brought sleep, even during the first few days of the disease, the tongue has become moister, the headache less, and the countenance more open. The sleep of an opiate is better than no sleep.¹ Camphor is a great favorite of ours also; we find, on the whole that no medicine equals it in the low delirium often connected with feeble heart. We combine it with opium in low delirium, accompanied by sleeplessness. Perhaps, however, the most striking in its immediate effects of all the medicines which we have used is that which we familiarly call Graves' Medicine. The combination of antimony and opium in the wild delirium of fever is advised by Graves in a well-known passage of the *Clinical Medicine*; and a marvellous remedy it is. Half a grain of morphia combined with one-third or one-half of a grain of the tartar emetic, with repetitions of half the dose if necessary, will bring quietness and sleep to a patient who an hour or two before was a raging maniac, leaping from bed, and destroying all he could lay hands upon. Such patients far too frequently die of exhaustion; and many did die until we made a regular practice of giving the morphia and antimony. These, then, were our measures:—

"1. An unusual supply of fresh air night and day throughout the hospital, all fear of draught being disregarded.

"2. Regular nursing and feeding, and the use, when necessary, of the best cognac brandy in addition.

"3. Prevention by morphia, if possible, of a second sleepless night, at whatever stage of the fever it may be threatened.

"4. The use of a combination of camphor and morphia in low delirium.

"5. The use of a combination of tartar emetic and morphia in wild delirium.

"The class of cases which we had to treat were true maculated typhus, often presenting a very dull dusky rash and great prostration. The large majority of them were sent in by the guardians of the poor, and were of the lowest order of the people."

¹ "The quantity of morphia to be given depends much, of course, on the patient. I seldom, however, venture upon more than a grain or a grain and a third, for fear of collapse, and this in divided doses. Of course opium is withheld when any tendency to coma is seen. Where, however, as is not infrequent, convulsions of a tetanic order appear, we use opium often in large or repeated doses with the happiest results. Such convulsions appeared and continued from time to time during the 9th, 10th, and 11th days of the fever in the case of our resident medical officer. They were controllable by opium to some extent; and by its unsparing use I believe his life was saved. Under treatment by blisters, purgatives, &c., such patients, as far as I have seen, invariably die. I have not found that a weak or fatty state of heart is a bar to the cautious use of opium, though in such cases I always combine it with camphor and other stimulants.

"By this I do not mean to imply that our cases of fever occurred in the worst possible subjects. Coming from destitute and over-crowded dwellings, they often showed symptoms of alarming prostration; over which symptoms, however, opium and brandy clearly had some control. The cases which I saw in private practice were on the average of a more dangerous kind, and the mortality higher. In persons accustomed to live by use of the brain the weight of the disease often fell upon that organ, causing cerebral and cerebro-spinal disturbances of an unmanageable and incalculable character, which tended to death. Among those who lived by bodily labor, and had no brains to speak of, the disease fell chiefly upon the muscular system, causing failure rather at the heart, and general animal and organic prostration; symptoms more easy to combat, and more easily foreseen in their variations and issues."

Mr. Lockhart Clarke discusses in an elaborate paper the diagnosis, pathology, and treatment of progressive locomotive ataxy. Of the pathological anatomy of the disease, he says:—

"In true locomotor ataxy the spinal cord is invariably altered in structure. Its membranes, however, are sometimes apparently unaffected, or are affected only in a slight degree; but generally they are much congested, and I have seen them thickened posteriorly by exudations, and adherent not only to each other, but to the posterior surface of the cord. Now the posterior columns, including the posterior nerve-roots, are the parts of the cord that are chiefly altered in structure. This alteration is peculiar, and consists of atrophy and disintegration of the nerve fibres, to a greater or less extent, with hypertrophy of the connective tissue, which gives to the columns a grayish and more transparent aspect, and in this tissue are embedded a multitude of corpora amylacea. Many of the blood-vessels that traverse the columns are loaded or surrounded, to a variable depth, by oil-globules of different sizes. For the production of ataxy, it seems to be necessary that the changes extend along a certain length—from one to two inches—of the cord. The posterior nerve-roots, both within and without the cord, are frequently affected by the same kind of degeneration, which sometimes extends to the surface of even the lateral columns, and occasionally along the edges of the anterior. Not unfrequently the extremities of the posterior cornua, and even deeper parts of the gray substance, are more or less damaged by areas of disintegration. The morbid process appears to travel from the centre to the periphery—that is, from the spinal cord to the posterior roots. In the cerebral nerves, on the contrary, the morbid change seems to travel in the opposite direction—that is, from the periphery towards the centres. From the optic nerves it has been found to extend as far as the corpora geniculata, but seldom as far as the corpora quadrigemina. With the exception of the fifth, seventh, and eighth pair, all the cerebral nerves have occasionally been found more or less altered in structure."

In a paper on Rheumatic Iritis, Mr. James Rouse deduces—1st. That in early and slight cases of the disease, alkalies combined with colchicum and aconite are remedies effectual to arrest it. 2dly. That adhesions once having been formed between the pupillary margin and the capsule of the lens, the use of mercury in some form is essential. 3dly. That atropine is always necessary during some stage of the attack. 4thly. That in case of severest pain and slight tension, the operation of cyclectomy, or paracentesis through the cornea, is advisable. 5thly. That in cases of recurring and chronic iritis, irideotomy is absolutely necessary to prevent blindness.

An article on Cerebral Symptoms occurring in certain Affections of the Ear is given from the pen of the late Mr. Toynbee. Mr. Warrington Howard discusses some points in connection with hernia; and Mr. T. Holmes treats of Amputation at the Hip-joint, and on the applicability of this operation in some of the worst cases of Morbus Coxarius.

Dr. J. W. Ogle contributes an important paper on Disease of the Brain, as a result of Diabetes Mellitus, illustrated by the Narrative of a Case, in which Paralysis, due to Softening of the Brain, came on in a Diabetic Patient, and proved fatal. Dr. Ogle first directs attention to the remarkable physiological experiments on the lower animals, by which, through injury inflicted on various portions of the nervous system, glycosuria has been induced, and which have prepared us to expect, and directed us under certain circumstances to the discovery of, an undue amount of sugar in the urine as a result of lesions, and of disturbances of the nerves, spinal cord, and brain in man.

The object of Dr. Ogle's present communication "is to direct attention to the existence of cases of diabetes in which this order is inverted—of cases, that is, in which lesions and disturbances of the nervous system appear to stand in the relation of *consequence* or *result* of the diabetic state."

This is altogether a new aspect of the subject, and does not seem to have been noticed by previous writers.

"Neither general and systematic, nor special writers on diabetes mellitus," says Dr. Ogle, "have found occasion to include actual lesion of structure of the brain or spinal cord as a *result* or *sequence* of this malady. The close and continued

watching, however, of a typical case of the disease in question, for a period of several months, has compelled me to the conclusion that whatever may be the more usual relationship between diabetes and disease of the brain, when they are found to occur in the same patient, there are cases in which brain lesion may follow the train of diabetes, and grow out of it, being in no wise antecedent to or the cause of it."

Dr. Ogle relates the case alluded to in detail, and follows it by a series of most suggestive and instructive clinical observations.

Other papers in this volume are: On Jaundice and Biliousness, by Dr. H. Bence Jones; on Paralysis in Childbed, by Dr. F. F. Fussell; Remarks upon the Modus Operandi of Hypodermic Injections, by Mr. C. Hunter; on Congenital Dislocations of the Femur, and on Talipes Varus, by Mr. Brodhurst; on the Diurnal Variations of the Temperature of the Human Body in Health (a most instructive paper), by Dr. William Ogle; on Ruptures of Arteries dependent on external injury, by Mr. G. Pollock; on the Formation of Coagula in the Cerebral Arteries, by Dr. Dickenson; on Talipes Equinus, by Mr. G. Naylor; on Certain Points connected with the Statistics of three hundred Amputations, by Mr. T. Holmes; Statistical Tables from the Dental Case-Books of the Hospital, by Mr. Vasey; and the Annual Reports of Cases admitted into the Medical and Surgical Wards.

XXXIII. — *St. Bartholomew's Hospital Reports*. Edited by Dr. EDWARDS and Mr. CALLENDER. Vol. II. London: Longmans & Co. 1866. 8vo, pp. 264.

This volume contains numerous interesting papers by members of the medical and surgical staff and former students of St. Bartholomew's Hospital. Among the more noteworthy papers is one by Mr. Savory On the Relation of Phlebitis and Thrombosis to Pyæmia; and another, by Mr. Paget, On Gouty and other forms of Phlebitis.

Mr. Savory sums up his observations in the following words:

"Thrombosis may exist without any evidence of phlebitis, and very often occurs without being followed by pyæmia.

"Phlebitis may occasionally exist without thrombosis, and often occurs without being followed by pyæmia.

"Pyæmia often exists without any evidence of thrombosis or phlebitis; still oftener it occurs without any evidence whatever that it has been preceded by either of these, or of any other affection of the veins.

"It has therefore not been satisfactorily shown that either phlebitis or thrombosis stands, in any especial or peculiar manner, in relation to pyæmia, as cause and effect.

"Although the ancient idea that the affection termed pyæmia depends on the presence of pus in the blood is no longer generally received, yet there can be little doubt that it still continues to influence largely the views which are taken of its pathology. That the disease is still so commonly associated with what was called phlebitis is due to the old idea that in this way pus is introduced into the circulation. It seems to be a great step onwards to recognize the fact that the disease may occur independently of the presence of pus, or of any affection of the veins whatever, — that it is not due to any specific or peculiar matter formed in this or that particular part, but that it is the effect of blood-poisoning, due to the introduction into the circulation of morbid or putrid matter. No doubt pyæmia is often associated with the formation of clots in certain veins, but this coincidence by no means implies the relation of cause and effect. When veins are found occupied by disintegrated clot after death from pyæmia, it has still to be shown that this was the cause of the disease. On the contrary, it can be shown, so far indeed as the most careful and critical examination can go, that pyæmia may occur independently of any affection of the veins whatever. And it is a question whether, in those cases in which the veins are plugged or inflamed, thrombosis and phlebitis are not the local, and pyæmia the general, effect of the same cause.

"No doubt pyæmia is almost always associated with the presence of pus somewhere; but this association does not of necessity imply the relation of cause and effect. The almost constant formation of pus in these cases may be otherwise accounted for, and there is no more evidence of any especial relation between pus and pyæmia than this, that pyæmia is the result of the passage of putrid fluid into the circulation, and that pus is of very common occurrence, and liable, like other animal fluids, to become putrid. It is only when pyæmia is disentangled from any special or specific local affection that there will be any chance of a full and free investigation of its pathology" (p. 60, 6).

Mr. Paget describes a phase of phlebitis not previously recognized. He thinks that the name *gouty phlebitis* is justified by the number of cases in which phlebitis is associated with ordinary gouty inflammation in the foot, or joints, and occurs with marked gouty constitution, or with gouty inheritance.

"In such cases the phlebitis may have no intrinsic characters by which to distinguish it; yet, not rarely, it has peculiar marks, especially in its symmetry, apparent metastases, and frequent recurrences. Gouty phlebitis is far more severe in the lower limbs than in any other part; but it is not limited to the limb that is, or has been, the seat of ordinary gout. It affects the superficial rather than the deep veins, and oftener occurs in patches, affecting (for example) on one day a short piece of a saphenous vein, and on the next day another separate piece of the same, or a corresponding piece of the opposite vein, or of a femoral vein. It shows herein an evident disposition towards being metastatic and symmetrical; characters which, I may remark, by the way, are strongly in favor of the belief that the essential and primary disease is not a coagulation of blood, but an inflammation of portions of the venous walls. The inflamed portions of vein usually feel hard, or very firm; they are painful, aching, and very tender to the touch; such pain, indeed, often precedes the clearer signs of the phlebitis, and not rarely begins suddenly. The integuments over the affected veins (where they are superficial) are slightly thickened, and often marked with a dusky reddish flush. When superficial veins alone are affected there may be little œdema; but when venous trunks, as the femoral, the whole limb assumes the characteristics of complete venous obstruction. It becomes big, clumsy, featurless, heavy, and stiff; its skin is cool and may be pale, but more often it has a partial slight livid tint, with mottlings from small cutaneous veins visibly distended. The limb thus enlarged feels œdematous all through; but firm, and tight-skinned, not yielding easily to pressure, and not pitting very deeply. By this state almost alone the disease must sometimes be recognized, for it may be very marked when only a small portion of vein is affected, and that (as the lower part of the popliteal) so deeply seated as to be scarcely felt" (p. 83).

The constitutional disturbance associated with this condition is that of slight feverishness, or of an ordinary gouty attack more or less acute. This form of phlebitis, as other forms, may prove fatal by embolism. Mr. Paget believes that the disease is often hereditary. He thinks that gouty phlebitis does not need active treatment. "Leeches," he says, "do no good; mercury (I think) would do harm, if anything; purgatives seem unnecessary; colchicum has the same limited value as in other forms of gout, and appears useful in direct proportion to the severity of the symptoms." Alkaline drinks may be given, the food and stimulants should be diminished, and water-drinking increased. Most important is rest, with the trunk and limbs level, "for in this condition there is the best opportunity for the adhesion of the clot, and its union with the walls of the vein; and the least risk of detachment." Of local applications, frequent fomentations, and wrappings of the limbs with hot wet flannels, seem best.

XXXIV.—*Sanitary Measures and their Results; being a sequel to "The History of the Cholera in Exeter in 1832," to which is now added a short account of its occurrence in 1849.* By THOMAS SHAPTER, M.D., Senior Physician to the Devon and Exeter Hospital, &c. Third edition. Exeter: W. Clifford. 1866. 8vo, pp. 36.

The health history of Exeter, from 1832 to 1866, in reference to cholera, is one of those illustrations of the value of sanitary improvements which cannot be too widely known. Dr. Shapter tells the story well, and the publication of a third edition of his useful essay shows that it is not unappreciated.

XXXV.—*The Present State of the Drainage Question considered in its Sanitary, Engineering, Economical, and Agricultural Aspects.* By WILLIAM MENZIES, Deputy-Surveyor of Windsor Forest and Parks. London: Longmans and Co. 1866. 8vo, pp. 49.

In a former work, published in 1865, Mr. Menzies sought to prove that the first principle to be kept in view in all drainage works, either for towns, villages, or single houses, was the entire separation of the rain-water from the proper sewerage, by a system of deep dains for the latter and surface drains for the former.

In this pamphlet Mr. Menzies endeavors to strengthen his argument.

XXXVI.—*On the Future Water Supply of London.* By GEORGE WILLOUGHBY HEMAS, C.E., and RICHARD HASSARD, C.E. London: Edward Stanford. 1866. 8vo, pp. 34.

On the Supply of Water to the Lancashire and Yorkshire Towns, from the Lake Districts of Cumberland and Westmoreland. By THOMAS DALE, C.E., Corporation Water-works, Hull. London: Kent and Co. 1866. 8vo, pp. 32.

In a previous volume we reviewed an ingenious proposition by Mr. Bateman, C. E., for supplying London with pure water from the Welsh hills. In the present pamphlet Messrs. Hemans and Hassard advance a bolder suggestion, namely, to bring water from the lakes of Westmoreland and Cumberland. This suggestion extends, moreover, to the supply of towns in the intermediate districts. In this scheme the lakes of Haweswater, Ullswater, and Thirlmere would form the reservoir of supply, and these lakes, the rivers Lowther, Eamont, and Greta, and the district draining into them, would be connected to form one great water-service.

"The water supplied to London and the intervening towns," these gentlemen say, "would be taken almost entirely from Ullswater and Thirlmere lakes, and would be of extraordinary purity and excellence, being under two degrees of hardness, and containing per imperial gallon, not more than about four grains of total impurity, of which scarcely more than half a grain would be organic matter.

"Haweswater and Thirlmere are lonely and unfrequented lakes, occupying deep valleys embosomed in mountains, and afford admirable sites for the construction, at comparatively trifling expense, of immense reservoirs, to which additional supplies of water can with great facility be conducted."

The mode of communication is thus sketched:—

"The water from Thirlmere would be drawn off at its northern extremity, and conveyed to Ullswater by conduit and tunnel; the tunnel would be eight miles in

length, but shafts can be put down over the entire distance, and in such a case, it is obvious, there would be no greater difficulty in constructing a long tunnel than a short one; it is simply a question of greater length and of additional shafts.

"From Ullswater the supply would be drawn off from the south end of the lake at Patterdale, and from thence carried by tunnel under Kirkstone Pass.

"This tunnel would be the only work of unusual magnitude connected with the project; it would be $7\frac{1}{2}$ miles in length, but of this $5\frac{1}{2}$ miles would be ordinary and rather shallow tunnel, and would therefore present no difficulty; the central portion immediately under Kirkstone Pass would be $1\frac{1}{2}$ miles in length between the shafts, and would, at the rate of progress which has been effected at the Mont Cenis Tunnel, occupy in its construction about three years after the shafts were sunk.

"No doubt, with the rock-boring machines of the present day, it might easily be completed in that or a less period of time.

"From the south end of the tunnel the water would be conveyed to London by conduit, tunnel, and iron pipes; the aqueduct would pass by Ambleside and Kendal, and down the eastern side of Lancashire, avoiding the Wigan Coal-field, to the east of Manchester and of the Potteries district, and to the east of the Staffordshire Coal-field, and of Birmingham, and onwards towards London, following a route nearly parallel with that of the London and North-Western Railway, and would terminate in a large regulating reservoir to be constructed to the north of Harrow, at a distance of about 12 miles from Cumberland Gate, Hyde Park.

"The project may, in fact, be briefly described as an aqueduct, or arterial conduit, deriving its supply from the great rainfall and natural reservoirs of the lake country, passing through the heart of England, and capable of affording, *in transitu*, a practically unlimited quantity of the purest possible water to the vast manufacturing districts and population on the line of its route, as well as to the metropolis itself.

"Some portions of the project and of the aqueduct may be carried out in detail, as the demand for water increases from time to time."

Estimates of amount of water available and of cost are given, but the impression left upon the mind is not altogether favorable to the project. It is probable, however, that the mind does not at once grasp the practicability of so bold a conception; and it is not a little heartening to find our civil engineers grappling in anticipation a question which sooner or later must be dealt with in practice differently than at present.

Mr. Dale's proposition appeals much more forcibly to the judgment. It is admirably conceived and argued. He has the priority in looking upon the Lake Districts as available resources of water-supply, but he limits their use to the Lancashire and Yorkshire towns. He finds in those districts, and the character of the water in its lakes, all the requisites for a permanent purity of source, as well as a sufficiency of supply.

"My scheme," he says, "comprehends the obtaining the supplies of water required for the various towns so (situated as to receive them) from the Lake Districts of Cumberland and Westmoreland, where such an abundance of the purest water is flowing year after year into the sea, whilst towns with dense populations, within a distance of this source of one hundred miles, are suffering the greatest inconvenience for the want of pure and wholesome water.

"The advantages to be derived from adopting this source are great. Amongst the number, the following may be mentioned:—

"1st. A much higher standard of public health would be obtained.

"2d. The water being soft, is better adapted for manufacturing purposes.

"3d. From its position as a mountainous district, the rainfall is very great; and having large lakes of great natural capacity, forming vast storages of pure water, a certainty of an abundant supply, at all seasons, would be secured.

"4th. That the capital invested in this project would be advantageously expended.

"The high mountains in this district, being exposed to a seaward aspect, secure an immense amount of rainfall, on an area of several hundred square miles. So great a supply of water is far beyond any demands which could be made upon it for towns' supplies."

Of the general outline of his scheme, he says:—

"Amongst the lakes are those of Ullswater and Haweswater. These two lakes, from their altitude, great volume, purity of water, and extensive precipitous area of rainfall, are the best adapted for town supplies.

"Ullswater is about nine miles in length, and varies in breadth from a quarter of a mile to two miles; the north is in Cumberland, the rest of it is in the Manor of Barton, county of Westmoreland. Opposite to Airey Beck it is from 174 to 110 feet deep; at the high end from 60 to 84 feet; and at the lower end—from Old Church downwards—it gradually diminishes from 120 to 36 feet deep. The colorless transparency of the waters of this lake is most remarkable. Out of it issues the river Eamont. The level of its water, as determined by the Ordnance Survey observations at Liverpool, is 477 feet above the mean tidal level, being the datum on which is based the whole of the altitudes of lakes and highest levels of towns.

"Haweswater, although not so large as Ullswater, is very considerable, and has a greater altitude, being 694 feet above the datum mentioned. . . .

"From these two lakes I propose to lay down main trunk pipes.

"The main trunk to consist of several distinct lines of pipes, laid side by side, so that should repairs or contingencies arise, ample provision would be made to retain a constancy of flow.

"At all stations, where branch supplies were required for towns, &c., reservoirs should be constructed to receive the discharge of waters from the mains.

"I propose that the various towns thus to be benefited should combine financially to carry out this project, each bearing its proportion of cost, in proportion to its ratable value or otherwise, as it may deem fit.

"The pipes I propose to lay down have a capacity of a discharge of one hundred and fifty millions of gallons daily; and the waters are proposed to be taken not from Ullswater alone, but also from Haweswater, a lake about three miles long, and from a quarter to half a mile in breadth.

"The following towns can be supplied with water discharged into reservoirs by gravitation, as shown by the following table:—

	Highest Level. Feet.	Head of Water. Haweswater.	Head of Water. Ullswater.
Lancaster	132	562	845
Preston	140	554	837
Wigan	157	537	820
Dewsbury	187	507	290
Wakefield	201	498	276
Liverpool	227	467	250
Leeds	300	394	177
Bingley	278	416	199
Kendal	316	378	161
Bolton	327	367	150
Blackburn	373	321	104
Keighley	388	306	—
Bradford	420	274	—
Huddersfield	429	265	—
Burnley	492	232	—
Rochdale	472	222	—
Halifax	604	90	—
Manchester	—	—	—
Salford	—	—	—
Stockport	—	—	—

We commend Mr. Dale's and Messrs. Hemans' and Hassard's pamphlets to our readers, as important contributions to the solution of a great public question.

XXXVII. — *On the Endoscope as a means for the Diagnosis and Treatment of Urethral Disease.* By CHRISTOPHER HEATH, F.R.C.S., Assistant Surgeon to, and Lecturer on Anatomy, at the Westminster Hospital. London: J. Churchill and Sons. 1866. 8vo, pp. 22.

This is a brief account of the new method of exploring, by the sight, the urethral, rectal, and vaginal passages. Mr. Heath confines his observations to the

use of the endoscope in morbid states of the urethra, first describing the healthy passage as seen through it. Among other observations, he states that he has noticed a constant vermicular contraction of the wall of the canal apparently passing towards the bladder, and this, he thinks, "accounts for the well-known fact that foreign bodies in the urethra tend to pass in that direction." We once witnessed the unfortunate accident of a flexible bougie snapping low down in the urethra. A piece of the extremity, a little over two inches in length, remained in the canal just anterior to the membranous portion. Presently, to our surprise and delight, we found that this portion was being gradually forced outwards by the unaided action of the urethra; and in a few moments it was actually thrust out of the passage.

Mr. Heath confirms Desormeaux's observations on the existence of *granular urethritis*, a morbid state first discovered by the aid of the endoscope.

He says that this disease—

"Appears to be of by no means infrequent occurrence in the male urethra, where it keeps up a constant slight discharge,—in fact, that slight remnant of gleet, the 'morning drop,' which is such a trouble to both the patient and the surgeon. I have been able to detect this condition in various parts of the urethra, sometimes confined to a small spot, and at others spreading for some distance, its most favorite seat being the bulbous portion of the urethra. Here, when the granulations are of large size, they materially narrow the calibre of the canal, giving rise to what may be termed a granular stricture, which is perfectly different in appearance from the true organic stricture, though it is not improbable, as pointed out by Desormeaux, that a long-continued granular condition may lead to the development of a true organic stricture. In fact, this method of the development of stricture has long been known to surgeons, who, in cases of long standing gleet, always apprehend the formation of a stricture. The appearance of the granulations, even when of small size, is very characteristic; and as they come into view the moment the tube is introduced, it is impossible that they can be due to the irritation of its presence, as has been stated by some observers. The granular condition will be best described by comparing it with that familiarly known as 'granular lids,' which the florid granulations cause it closely to resemble; and the treatment is the same—viz., the local application of the strong solution of nitrate of silver I have already mentioned. Not only does this take down the granulations and restore the healthy appearance of the mucous membrane, but *pari passu* the calibre of the strictured portion of the urethra increases; and thus I have frequently found that after a few applications of the solution the largest-sized tube is able to pass where it had been previously prevented, and this without the use of any dilating instruments whatever."

Mr. Heath reports several cases showing the utility of the endoscope.

XXXVIII. — *Practical Observations on the Intellectual, Sanitary, and Medical Treatment of the Deaf and Dumb.* By HENRY SAMUEL PURDON, M.D., Fellow of the Anthropological Society. Belfast. Sm. 8vo, pp. 95.

This work is devoted to a brief historical sketch of the deaf and dumb; the conditions of the ear, congenital and acquired, observed in mutes, with the various remedies which have been proposed for their cure; the manifestations of disease occurring in deaf-mutes; the diseases to which the deaf and dumb are peculiarly liable; and, finally, the medical and sanitary management and dietetic regimen of these unfortunates.

XXXIX. — *The Nervous System*. By LUDOVIC HIRSCHFELD, M.D., of the Universities of Paris and Warsaw, Professor of Anatomy to the Faculty of Medicine of Warsaw. Edited in English by ALEXANDER MASON MACDOUGAL, F.R.C.S., with artistically colored lithographic illustrations, designed by J. B. Lévillé. Part I. J. Churchill and Sons. Imp. 8vo.

Hirschfeld's and Lévillé's illustrations of the nervous system are unrivalled. Their accuracy, beauty of execution, finish, and delicacy of color exhaust praise. The republication of these plates with an English text is a happy idea, which we trust will meet with a just appreciation from the profession. The present part contains the plates devoted to the vertebro-cranial dura mater and vertebro-cranial arachnoid.

XL. — *Gleet: its Pathology and Treatment. With a Memoir on the Treatment of Stricture of the Urethra by Subcutaneous Division*. By HENRY DICK, B.A., M.D., Surgeon to the National Orthopædic Hospital. Second Edition. London: R. Hardwicke. 8vo., pp. 113.

Dr. Dick, although using the endoscope, does not appear to assign to it so important a position in the diagnosis of morbid conditions of the urethra as some writers. It may clear up certain doubts, but practically it does not supersede the ordinary methods of investigation. He disbelieves, moreover, in the existence of the so-called granular urethritis. He says:—

“That which is called by modern writers granular inflammation, as seen by the help of the endoscope, is only the swollen and injected state of the vessels of the urethra during chronic inflammation. We can artificially produce the same appearance in the healthy urethra by the introduction of a dilating tube or instrument into the urethra for a short time. On withdrawing the instrument and immediately inspecting with the endoscope, the urethra will be found to present the appearance of granular inflammation. I have chosen sound parts of the urethra and different parts and made those experiments, and always came to the same conclusion—namely, that the granules we see by the help of the endoscope are the swollen vessels, but not new formations as we observe in the uterus or in the eye. The anatomy of the eye and of the uterus is different from that of the urethra. Fibrous tissue or a fibrous membrane is placed in the womb or the eye directly under the mucous membrane. Such is not the case in the male urethra, where a loose vascular tissue forms the subcutaneous tissue of the mucous membrane.”

Dr. Dick describes gleet as existing under three different conditions. 1st. Chronic inflammation of one or several spots, with weakness of the affected parts. 2dly. A pathological change of one or several spots of the urethra, with swelling and redness, the affected parts being more or less swollen, contracted, and sometimes deviated. 3dly. An established structural change of the affected parts.

The suggestion for the treatment of stricture, under certain conditions, by subcutaneous division, is exceedingly ingenious, but for the steps of the operation we must refer to the work itself.

XLI. — On the Non-identity of the Parasites met with in Favus, Tinea Tonsurans, and Pityriasis Versicolor; including proofs derived from the occurrence of these diseases amongst the Lower Animals, and their transmission from them to Man. By Dr. McCALL ANDERSON, Lecturer on Practice of Medicine in Anderson's University, Physician to the Dispensary for Skin Diseases, &c., Glasgow. Glasgow: Wm. Mackenzie. 1866. 8vo. pp. 20.

This is another of Dr. Anderson's instructive contributions to dermatology. He supports his argument of the non-identity of the parasites named by cogent instances, and he appends the following summary of proofs:—

"(1.) In all cases of successful inoculation with the *Achorion*, *Tricophyton*, and *Microsporon furfur*, the same parasitic disease has been produced as that from which the parasite was taken.

"(2.) Of the innumerable cases occurring in the human subject illustrative of the contagious nature of favus, tinea tonsurans, and pityriasis versicolor, which have been recorded, there is no authentic case in which one of these diseases gave rise to one of the others.

"(3.) The difference in the appearance of favus, tinea tonsurans, and pityriasis versicolor, when fully developed, is so very striking as to lead to the belief that they are produced by separate parasites.

"(4.) There is no authentic instance on record of the transition of one of these diseases into one of the others.

"(5.) The difference in the appearance of the achorion, tricophyton, and microsporon furfur is sufficiently striking to enable the observer in many cases to form a correct diagnosis from the microscopic examination alone.

"(6.) Of the numerous instances on record of the transmission of favus and tinea tonsurans from the lower animals by contagion or inoculation, favus has always given rise to favus, and tinea tonsurans to tinea tonsurans."

Dr. Anderson's references form a useful bibliography of the subject he discusses.

XLII.—What to Wear in India. An Attempt to apply the Philosophy of Heat to Clothing. By CAMERON J. F. McDOWALL, Assistant-Surgeon, Bombay Army. Bombay: Thacker. 1865. 8vo, pp. 24.

Mr. McDowall endeavors to instil a better knowledge of the requisites of clothing into his tropical associates. He is brief, to the point, and not inapt in illustration. Thus, writing of color as influencing the temperature, health, and comfort of the wearer, he says:—

"I remember well that when encamped on the shores of the Bosphorus, in Turkey, a little incident occurred which vividly impressed this physical fact on my memory and shoulders! The forenoon being bright and inviting, we (some other officers and myself) determined, Leander-like, to lave our limbs 'in the classic waters of the East,' though not precisely at the same spot that he patronized. The walk was pretty long and hot. We one by one took our coats off and carried them on our arms, both on going and coming from the bath. I wore a cherry-colored flannel-shirt, and although all our shoulders were more or less burnt by exposure while in the water, I was literally scorched, and for some days suffered greatly from the slightest movement or friction of my coat. We all suffered in exact proportion to the depth of shade of our flannel. Now in the jungle, in the hottest weather and in the sun, I have often ridden, and do ride still, both for experiment and comfort, in my shirt-sleeves; but that shirt is white. Any other color requires a proportioned thickness,—nay, even padding, according to some."

Mr. McDowall is equal to a joke. "A fanciful idea," he says in a final note, "suggests itself as to whether the knapsack—which, well-packed, is almost bullet-proof—could not be so made as to be worn temporarily in front of the chest

during action. The ordinary bayonet thrust could not pierce it. Certainly at present during battle it is only an encumbrance. I claim the patent of this *pièce de résistance*." This is not bad for the tropics.

XLIII.—*Fecundity, Fertility, Sterility, and Allied Topics*. By J. MATTHEWS DUNCAN, A.M., M.D., F.R.C.S., Lecturer on Midwifery to Surgeons' Hall Medical School, Physician for Diseases of Women to the Royal Infirmary, &c. Edinburgh: Adam and Charles Black. 1866. 8vo, pp. 378.

This is the most important work on the intimate laws affecting population which has issued from the press for some time. It contains a mass of facts and deductions which almost set abstraction at defiance. We shall simply bring together some of the most important of Dr. Duncan's deductions.

On the fertility (productiveness) of the female population at different ages, he concludes that the actual, not the relative, fertility of our female population, as a whole at different ages, increases from the commencement of the child-bearing period of life, until the age of thirty is reached, and then declines to its extinction with the child-bearing faculty. Further, that actual fertility is much greater before the climax, thirty years, is reached, than after it has passed. And, finally, that at least three-fourths of the population are recruited from women not exceeding thirty years of age.

The comparative fertility of the whole female population at different ages increases gradually from the commencement of the child-bearing period of life until about the age of thirty years is reached, and then it still more gradually declines. It is greater in the decade of years following the climax of about thirty years than in the decade of years preceding the climax.

The fecundity (capability to bear) of the mass of wives, it would appear, is greatest at the commencement of the child-bearing period of life, and after that period gradually declines. The fecundity of the whole wives in our population included within the child-bearing period of life is, before thirty years of age is reached, more than twice as great as it is after that period. The fecundity of wives in our population declines with great rapidity after the age of forty years.

The initial fecundity of women gradually waxes to a climax and then wanes; it is very high from twenty to thirty-four years of age; and the climax is probably about the age of twenty-five years.

Nearly all women married at from twenty to twenty-five years of age are fecund; and the fecundity of very young (fifteen to twenty years) wives, below twenty, is greater than that of wives married at from twenty-five to twenty-nine.

Passing over the questions as to the weight and length of the newly-born child, and the influence of age of the mother and primogeniture upon the infant, we come to the questions relative to twins, an examination of which leads to the following conclusions:—

"1. The largest number of twins is produced by women from twenty-five to twenty-eight years of age; and on each side of this climax of fertility in twins there is a gradually increasing falling off in their number as age diminishes on the one side and increases on the other.

"2. Twins are not regularly distributed among births generally; their production, therefore, is not subjected to the same laws as govern ordinary fertility.

"3. The mean age of twin-bearing mothers is greater than of mothers generally.

"4. Twins increase in frequency as mothers become older. This forms a striking contrast to the fecundity of a mass of wives (not mothers) which diminishes as their age increases. It accords, however, with the law of intensity of fertility of fertile women.

"5. Newly-married women are more likely to have twins the older they are.

"6. While the fecundity of the average individual increases with age till twenty-

five is reached, and then gradually diminishes, there is some probability that the opposite is true, so far as regards twins alone, fertility in twins being greatest when fecundity is least, and *vice versa*.

"7. The actual number of twins born of a mass of women in different pregnancies decreases as the number of pregnancies increases.

"8. The number of twins, relatively to the number of children born in different pregnancies, increases with the number of the pregnancy. In other words, a woman is more likely to have twins in each succeeding pregnancy than in the former pregnancy. The first pregnancy forms an exception to this rule.

"9. In an individual, twin-bearing is a sign of high fertility at the time. It also, in a mass of women, shows a high amount of fertility, at least till the time of the birth of the twins.

"10. It is probable, though not proved, that twin-bearing women have larger families."

The laws of the fertility of women are next discussed in their different bearings; and then Dr. Duncan enters upon the consideration of the laws of sterility. Some of the deductions in the latter section will indicate the interesting matter to be found herein. Thus, we learn that relative sterility—that is, the condition of a woman who, while she may or may not be sterile, is, under ordinarily favorable circumstances for breeding, sterile in relation to the circumstances of time—will arrive after a shorter time, according as the age at marriage is greater. The older a fertile woman is at marriage, the older is she before her fertility is exhausted; that is, before the advent of relative sterility. A wife who, having had children, has ceased for three years to exhibit fertility, has probably become relatively sterile; that is, will probably bear no more children; and the probability increases as time elapses.

An examination of the questions connected with the mortality of child-bed leads to several important deductions or observations, of which not the least is, "that the age of greatest safety in parturition concludes with the age of greatest fecundity, and that during the whole of child-bearing life safety in parturition appears to be directly as fecundity, and *vice versa*."

The age of fertility is considered by Dr. Duncan, and then he enters upon the questions connected with the duration of labor, the interval between insemination and conception, and insemination and parturition; also the interval between the last menstruation and parturition, the prediction of the day of confinement, and the protraction of the period of pregnancy. We shall merely whet the minds of our readers with this summary of the contents of the latter portion of Dr. Duncan's work, for (as, indeed, is to be said of the whole of the book) justice only can be done to it by reading it.

Dr. Duncan's work will find a permanent place upon the bookshelves of all thoughtful men who take an interest in the great questions of the propagation of our species.

XLIV.—*Diarrhœa and Cholera: their Nature, Origin, and Treatment, through the Agency of the Nervous System.* By JOHN CHAPMAN, M.D., M.R.C.P., M.R.C.S. Second edition, enlarged. London: Trübner and Co. 1866. 8vo, pp. 248.

It is fortunate that Dr. Chapman has himself summed up his neuro-physiological positions, or we might run the risk of being charged with mutilating his theory. He starts from the following propositions:—

"1. That the chief function of the sympathetic nervous system consists in regulating the diameters of the blood-vessels throughout the body.

"2. That when the sympathetic ganglia are in a state of maximum hyperæmia the nervous effluence from them to the muscular coats of the arteries to which they are severally related stimulates them so excessively as to induce in them a condition of tonic spasm—a spasm so intense as to result in shutting off the blood altogether from a large proportion of the peripheral arteries.

"3. That when the sympathetic ganglia are in a state of maximum anæmia the

nervous effluence from them to the muscular coats of the arteries to which they are severally related becomes so extremely feeble that a condition resembling paralysis is induced; the muscular coats of the arteries become consequently extremely relaxed; and, as the blood flows in the direction of least resistance, the parts supplied by the arteries in question become suffused with blood to an excessive degree.

"4. That when the spinal cord is in a state of hyperæmia, cramps of the involuntary muscles surrounding the alimentary tube, as well as cramps, or even convulsions of the voluntary muscles, which are due to such hyperæmia, are likely to ensue.

"5. That every gland and glandular follicle in the body is under the control of one motor nerve (which I call the *positive motor*) emerging from the cerebro-spinal system, and distributed to its secreting cells in order to regulate its functional activity; and of another motor nerve (which I call the *negative motor*) emerging from the sympathetic system, and distributed to its artery or arterial twig, in order to regulate its blood-supply.

"6. That in the same manner as glands are supplied with positive, as well as with negative, motor nerves, so, there is reason to believe, every tissue of the body is thus supplied, and is thus placed and sustained in a state of elective affinity for the elements of the blood requisite for its nourishment and functions.

"7. That the sympathetic ganglia and the spinal cord can be rendered hyperæmic or anæmic, artificially, by means of heat, in the one case, and cold in the other, applied along the spine.

"8. That by means of heat applied along the spine the general circulation may be lessened, the activity of the glandular system may be increased, and in some cases, cramps of both the voluntary and involuntary muscles may be induced.

"9. That by means of cold applied along the spine the general circulation may be increased, the activity of the glandular system lessened, and cramps of both voluntary and involuntary muscles may be arrested or prevented."

It will be observed that there is a question here of theory within theory; and in the subsequent portions of Dr. Chapman's work, when the etiology of diarrhoea and cholera is discussed, other subsidiary theories arise out of the former, until the unfortunate reader is left in bewilderment. It may be questioned even if the writer himself has escaped from the confusing tendency of his own active speculations. Thus in the "preface" there are a series of suggestions about electricity as a probable efficient cause in the production of cholera, which leave all sober reasoning and modest facts in the infinite distance. "There may already exist," writes Dr. Chapman, "for aught I know, in astronomical observations as elsewhere, records of observations of electric phenomena, both atmospheric and telluric, during cholera times, sufficient at all events to admit of the institution of a provisional parallel between the various degrees of intensity of the cholera epidemic and of electric disturbances in the different localities in which the disease has prevailed" (p. viii). If this means anything at all, it means that Dr. Chapman prefers to speculate upon certain problems of physical and physiological science without the restraint of facts, for such only can be the conclusion attached to an indisposition to take the measures to ascertain whether any systematic observations exist bearing upon the question at issue. The promiscuous facts and statements he quotes to show *some* possible connection between the electrical state of the atmosphere and disease are worthless as ballast for his prefatorial speculations.

The principal interest of this edition of Dr. Chapman's work exists in the chapter on the results of treatment. If clinical experience shows that the treatment of diarrhoea and cholera by the spinal ice-bag gives satisfactory results, we will take the facts irrespective of the theory. It has unfortunately happened that Dr. Chapman's opportunities of trying his plan have been few. The apparent positive results obtained by the application of the ice-bag in collapse have been the promotion of a more steady reaction and the relief of cramps. One or two of the cases recorded seem to leave little doubt in these respects, and these facts command attention.

The general results of the treatment, as applied at Southampton, are thus stated:—

"So far as I am aware, the only medical men in Southampton who, during the

present cholera epidemic, have had any patients treated by means of modifying the temperature of the spinal region, are Mr. Bencraft, and Drs. Griffin, Cheeseman, and Olliver.

"The aggregate number of cholera patients treated by them up to the 20th of July was 72: of these, 44 were submitted to ordinary treatment; 25 had died before I left Southampton on the 21st instant; and of the 19 survivors, some had recovered, and some were recovering. Of the 28 who had been treated by means of ice, 18 had died before the 18th instant; and of the 15 survivors, some had recovered and some were recovering.

"According to these statements, it appears that whereas only 43 per cent. of those patients submitted to ordinary treatment have recovered, 53 per cent. of those treated by means of ice have been saved. But it will be observed that in Case 25 the child was moribund when the ice was applied; that in Case 31 the ice was not kept along the spine; and that in Cases 85 and 86, owing to the ignorance or stupidity of the attendants, the patients were drenched with iced-water, which escaped from the unfastened bags. These four cases, therefore, cannot be held to have been cases in which my method of treatment was tried at all. If these be excluded, then of those treated 60·2 per cent. had recovered, or were recovering, when I left Southampton.

"But this comparison of the aggregate results of the two methods of treatment is far from showing the full remedial power of my method of treating cholera, as compared with the others adopted in Southampton. Of the whole 23 patients treated by Mr. Bencraft, the only four who survive were treated by ice. Again, if Dr. Griffin's patients be ranged into three classes of cases, viz., choleric, slight collapse, and complete collapse, as he has carefully distinguished them, it will be found that there are 10 of the first, 5 of the second, and 7 of the third class. Now, as all the patients treated by him, or in conjunction with me, by means of ice, were of the second and third class only, it is necessary, in order to institute a correct comparison of the two methods, to ignore the 10 cases of choleric, and to compare the results of treatment in respect only to the cases of slight and complete collapse. The results are as follows:—

Cases under ordinary treatment.

Slight collapse	5	all recovered.
Complete collapse	7	all dead.

Cases under ice treatment.

Slight collapse	3	all recovered.
Complete collapse	10	of whom 5 recovered.

"It thus appears that while *all* the cases of complete collapse, viz., 14, which were submitted to ordinary treatment by Mr. Bencraft and Dr. Griffin, *died*, 4 of Mr. Bencraft's cases, and 5, or the half of Dr. Griffin's cases, altogether 9 out of 22, or 40 per cent. of those treated by means of ice, recovered.

"The results would have been much more favorable still if all the cases treated had been treated properly. For example, in Case 27, death was most probably induced by the improper use of the hot-water bag; Case 30 was only seen once, and can scarcely be said to have been treated at all. Moreover, whereas an essential part of my method of treatment consists in applying heat thoroughly and constantly to the general surface of the body in all severe cases, while the ice-bag is being applied along the spine; in Cases 26 and 33 this was not done at all; and in Cases 29, 30, 32, 34, it was done but very partially and inadequately. Nevertheless, besides the two fatal cases in which complete reaction from collapse was obtained, in Cases 26 and 29 the improvement effected was so considerable as to assure me that they would have recovered had they been in all respects properly treated; and even in Cases 32 and 34, so much reaction was obtained as to forbid despair while there is life, if only the treatment in question be thoroughly and energetically persisted in.

"Every one who knows how powerless medicine is to rescue patients from collapse, must admit that the results here described deserve the earnest attention of all interested (and who is not?) in finding a successful remedy for cholera; for it appears that out of the 24 cases treated, of which 22 were in collapse, 15 were saved, 2 were completely recovered from collapse, 2 were rallied to a great extent, and 2 in a lesser degree, notwithstanding the partial and ineffectual way in which the treatment was tried.

"As already shown, if the whole 28 cases nominally treated by ice be considered, the proportion of recoveries is 53 per. cent. But if the four which were really not treated be excluded, then the proportion of recoveries is 60 per. cent. (or 2 per. cent. less than that of the recoveries by means of ice at Southampton, in 1865), under all the disadvantages of inadequate trial already described. Though at the time when I last left Southampton the proportion of recoveries under ordinary treatment was, as already stated, 43 per. cent., the results as published in the *Medical Times* of August 4th, 1866, show a still less proportion of recoveries under that treatment. Up to July the 31st there had been 158 cases, and 101 deaths: now, after the 28 cases treated by ice, 13 of which were fatal, are deducted from these numbers, it appears that 130 cases have been submitted to ordinary treatment, and that 88 of them have proved fatal, thus leaving 42 patients, or 30 per. cent., who had recovered or were recovering. Concisely stated, the results of my method of treatment, as compared with the others pursued at Southampton, are as follows:—*Nearly two-thirds of the patients treated by ice recovered; more than two-thirds of the patients submitted to ordinary treatment died.*"

The fatal objection to the results here given is the smallness in number of the cases. It is no fault of Dr. Chapman that his field of observation has been so limited, and apart from all theory, the results obtained at Southampton show that, in a disease like cholera, when in the advanced stages, medicine has hitherto been at fault, we cannot afford to throw aside a suggestion supported even by so small a number of cases as Dr. Chapman records. Should cholera again reappear among us, this practical question here at issue should not be left again in doubt.

XLV.—*The Cholera Map of Ireland: with Observations.* By Sir J. DOMINIC CORRIGAN, Bart., Physician in Ordinary to the Queen in Ireland. Dublin: Browne and Nolan. 1866. Sm. 8vo, pp. 18.

Sir J. D. Corrigan republishes the cholera-map of Ireland for 1848–50. His object is to show that contagion, admitting it to exist in cholera, is an element in the spread of the disease less to be dreaded than the contagion of small-pox, typhus fever, follicular or typhoid fever, erysipelas, measles, or scarlatina, and that therefore there exists no good reason for considering cholera, in regard to contagion, in any light different from other epidemic diseases.

Of the significance of the map in relation to this view, we quote Sir J. D. Corrigan's own words, more particularly as they recall some interesting facts in the history of the epidemic of 1848–49 in Ireland:—

"It was naturally to be expected," he says, "if contagion promoted by population, free intercourse, and the bringing of numbers together in commerce, trade, and manufactures, were an element of much power in propagating the disease, that the map would show that the greater number of towns attacked were in those parts of Ireland where trade, manufactures, and frequent intercourse brought multitudes together; but the contrary is shown by the map, for in the whole of Connaught, and a considerable portion of Munster—its western portion—not a town escaped; while in the other provinces of Ireland, Ulster, Leinster, and the eastern parts of Munster, where trade, manufactures, and commerce brought much greater numbers together, the red dots are considerable in proportion, showing the number of towns that escaped.

"This is just the reverse of what would have occurred was contagion an element of power in propagating the disease. Connaught, with comparatively little intercourse on its seaboard with England and other countries, with a scattered population, without a single manufacturing town, does not show a red mark—not a town escaped. A similar observation applies to the western half of Munster; while in the north of Ireland, with its teeming population, its manufacturing towns, bringing great numbers together of all ages, its seaports and factories, shows a large proportion of red-dotted towns. This observation also applies to nearly the whole eastern half of Ireland; so that if we divide the map, by a line extending through the centre of Ireland, from north to south, we arrive at this result—that the western half, with a scattered population, with little traffic, with little direct inter-

course with other countries, without factories to bring numbers together—in fact, with the least means of conveying contagion—does not show more than five towns free from the visitation; while the eastern half of Ireland, that on the right-hand side of the line, with its populous cities and towns, its numerous seaports, roads, and factories, presenting all the facilities for the conveyance of contagion, shows a very large proportion of red-dotted towns, or towns that did not suffer from the visitation. The numbers will stand thus in provinces:—

“**ULSTER.**—84 towns of 2000 inhabitants and upwards; of these, 17, or exactly one-half, escaped the visitation of cholera.

“**LEINSTER.**—41 towns of 2000 inhabitants and upwards, of which 9 escaped; 32 were visited by cholera.

“**MUNSTER.**—47 towns, of which 5 escaped, and 42 suffered.

“**CONNAUGHT.**—14 towns, of which not one escaped.

“It appears to me impossible to look at the map and these returns, without admitting the conclusion, that whether cholera may or may not become contagious, the element of contagion is of comparatively little importance; and that our best protection will be, not in devoting too much of our energies to combat this element, but in improving the safeguards or protective powers that will render the frames of the people able to resist the influences that spread the disease, telluric, atmospheric, or contagious, as they may be.”

Sir J. D. Corrigan supports his views relative to the contagion of cholera by the expressed opinions of the Irish Health Commissioners for 1849, and particularly by the opinions of Dr. Gavin Milroy, Dr. John Sutherland, and others in the Report of the Council of the Epidemiological Society on Cholera Hospitals, published in 1866.

He sums up his practical opinions in the following terms:—

“1. That opinion is divided as to whether cholera is or is not contagious.

“2. That its contagious nature has never been demonstrated; the proofs in support of its contagious character never amounting to more than probability.

“3. That its outbreak and its zones in India demonstrate, to a certainty, its capability of arising without contagion, and probably from telluric influence.

“4. That it is admitted by all, even the most ardent contagionists, that if it be contagious, its contagious character is less than that of typhus and typhoid fever, of scarlatina, small-pox, measles, &c.

“5. That assuming this, there exist no good grounds for excluding cholera patients from hospitals adapted for the reception of other epidemic or contagious diseases.

“6. That the shutting of such hospitals against them has an injurious effect on the whole mass of the people, both in regard to health and moral feeling.

“7. That inculcating a great fear of contagion tends to demoralize the people in their social relations.

“8. That we should inculcate these two principles—

“That, even admitting cholera to be contagious, it is less so than other epidemic diseases with which the people have been long familiar; and that their best power of resisting it, whether depending on atmospheric or telluric influence, or on either or both combined with contagion, is by maintaining mind and body in the most perfect condition of health.”

This pamphlet is an interesting contribution to authoritative opinion concerning the subject to which it refers.

XLVI.—*The Law relating to Public Health and Local Government, including the Law relating to the Removal of Nuisances injurious to Health, the Prevention of Diseases, and Sewer Authorities, with the Statutes and Cases.* By W. CUNNINGHAM GLEN, Esq., Barrister-at-Law. Fourth edition. London: Butterworths, and Knight and Co. 1866. 8vo, pp. 1000.

This work deals with the laws of public health so far as they affect local authorities. It contains in fact, to use the author's words, "the whole of the law of 'Local Self-Government,' in relation to the conservation of the Public Health, and to all those numerous matters upon which life, health, and property depend." It does not deal, except in brief reference, with the Acts relating to bodily care, such as the Factory and Mine Acts, the Acts concerning Adulteration of Food, Vaccination, Contagious Diseases, &c., as these Acts do not throw any responsibility upon the local authorities.

This being understood, the present work is the most comprehensive we possess as an aid to a right comprehension of the laws to which it refers. The legislation of 1865 and 1866—in the former of which years the Sewage Utilization Act was passed, in the latter the Sanitary Act—rendered a revision of the work necessary. This has been done, and the arrangement of the book may be thus briefly sketched. It is divided into six parts. The first part treats of the formation of the districts of the local boards, the constitution of those boards, their election and general powers; the second part, of their powers as to sanitary matters and the local government of towns; the third part, of the powers of local boards as to rating, raising money on mortgage of the rates, purchase of lands, audit of accounts, contracts, arbitration, legal proceedings, by-laws, and other miscellaneous subjects; the fourth part, of the removal of nuisances injurious to health; the fifth part, of sewage utilization, and the constitution of sewer authorities under the Acts 1865 and 1866; and the sixth part, of the law relating to the prevention of epidemic, endemic, and contagious diseases.

It may be useful to mention that Mr. Glen's work includes the Quarantine Act.

XLVII.—*The True and the False Sciences: a Letter on Homœopathy.* London: J. Churchill and Sons. 1866. 8vo, pp. 40.

A vigorous application of good argument to a bad subject.

XLVIII.—*An Essay on the Life in Nature.* By LOUIS MACKALL, M.D. Washington. 1865. 8vo, pp. 12.

Extract from an Unpublished Essay on Physical Force. By the same author. Washington. 1865. 8vo, pp. 34.

An Essay on the Law of Muscular Action. By the same author. Second edition, revised. Washington. 1865. 8vo, pp. 34.

Dr. Mackall delights in investigating the recondite problems of life and physical force. His observations on the law of muscular action were guided by a painful event in which all will sympathize. His own statement will best show the tendency of his researches and the circumstances under which they were undertaken:—

"For the last thirty odd years," he says, "I have been engaged in investigating

this subject of muscular action, but have reasoned solely from instances derived from vital phenomena, or such as are observable in the living body. The following is a succinct account of my proceedings in this investigation:—

“From often observing in the practice of medicine, the inadequacy of remedial means made use of, and from frequently experiencing disappointment in my anticipation of the results of the operation of such means, I became convinced that there was something wrong—some great error in the theory, or in the principles of medicine in which I had been taught.

“This conviction was brought forcibly home to my mind by the death of my wife from uterine hæmorrhage, notwithstanding the use of all the remedial means known to myself and a very skilful medical friend who was present.

“Under the influence of grief consequent on this bereavement, I resolved that I would devote the residue of my life to the task of endeavoring to discover, if possible, the error in the theory of medicine that I had before suspected, and in which suspicion I was confirmed by my late experience.

“While studying this theory in the books for the above purpose, a case of whitlow (*paronychia*) was presented for treatment. Prompted by the resolve mentioned, I carefully noted the prominent facts of the case. I particularly noticed the pulsation of the arteries at the diseased point and at the wrist; and my attention was forcibly arrested by observing the remarkable difference in that pulsation at the two points. That in the finger was full and strong, while the pulsation of the artery at the wrist was comparatively calm.

“Reflecting on the above fact, I arrived at the conclusion that there must be some agency in the arteries of the finger, that were throbbing so violently, to produce this result, that was independent of that in the general circulation; and, in casting about in my mind for some suggestion as to what that agency could be, it occurred to me that the throbbing or distention of the arteries was occasioned by the *action* of their muscular fibres. The correctness of this explanation of the phenomenon in question was confirmed by running over in my mind, as I did at the moment, a number of instances wherein irritation was attended with the distention or dilatation of the tubes or hollow organs, when such organs were supplied with muscular fibres—as in the œsophagus, in the stomach, intestines, in the uterus in pregnancy, &c.

“I had now arrived at a definite proposition; and in the year 1834, in November, I wrote down that proposition in the following words: ‘All the tubes of the animal body, which are supplied with muscular fibres, have their calibres increased by the *action* of those fibres.’ This was shown and explained to four medical gentlemen at the time mentioned, and signed by them, witnessing that it was so shown. Three of these gentlemen, namely, Drs. J. H. Skinner, B. B. Hodges, and William Ghiselin are now (1865) living. One of them, the late Dr. Henry Brooke, died a few years since.

“In 1836 I forwarded a paper, setting forth the above idea by an application of it to a number of vital phenomena, to the Professor of Anatomy in the University of Maryland, requesting him to advise me as to the best mode of bringing the subject to the notice of the medical profession. My communication was treated with contempt, as were also several papers written on the same subject, and shown to members of the medical profession.

“Although I was fully convinced, from the period mentioned above, that the calibres of the tubes and hollow organs were increased by the action of their muscular fibres, I did not fully comprehend how this occurred until the spring of 1842. At that time, being in conversation with a gentleman who was fond of gesticulating, he, in derision of something that was said, thrust out his tongue over his under lip. This sudden elongation of the tongue instantly suggested that which I had been in search of for eight years—a rational explanation of the action of the fibres about the tubes. The truth flashed on my mind, *that the fibres of muscles are actively elongated by innervation.*”

Dr. Mackall's essays on “Physical Force” and “Life in Nature” deal with abstract questions.

XLIX. — *On the Treatment of Lupus.* By J. L. MILTON, Surgeon to St. John's Hospital for Diseases of the Skin. London: Robert Hardwicke. 1866. 8vo. pp. 27.

Mr. Milton discusses the different remedies used in this formidable disease. He holds to be of doubtful value barium, antimony, soda, cod-liver oil; "most of those preparations of iodine, mercury, and potass, which are not absolutely useless, particularly alterative doses of mercury, or combinations of it with iodine and arsenic, as in Donovan's solution." As remedies of no value at all, Mr. Milton regards steel, quinine, animal acids, bitters, opium, wine and beer, change of air, and sea-bathing.

Again, external remedies are divided by Mr. Milton into two classes — the useless and the hurtful. Under the head of useless he includes most of those not strong enough to give pain, while nearly all those strong enough to give pain, he thinks, might safely be classed as hurtful.

The remedies which Mr. Milton proposes himself are much the same as others use — namely, arsenic, mercury, and sometimes iodine; the difference lies in the mode of giving them; "but this difference," he says, "is just the most important feature in the whole matter; and one to which I was led, not by any desire to introduce a novelty, but my utter failure with ordinary methods."

Arsenic, he advises, should be given in simple solution and uncombined with any other preparation. It should, as usual, invariably be taken immediately after meals, or with food, but in a quantity always *sufficient to produce some disorder of the stomach.* Till this is done, arsenic, according to Mr. Milton, is powerless against the complaint. Experience alone in the individual case can determine the dose: —

"The only safe plan then, that I know of," he writes, "is to begin with five-minim doses three times a day. If at the end of a few days this quantity brings on sickness or nausea, coated state of the tongue, headache, or great languor, the dose is quite large enough, and instead of being increased may possibly require to be lessened after a few days. But if nothing of this kind occurs, or if such symptoms have occurred and have been subdued, double the amount may be ordered and continued steadily for a few days to see whether any disturbance of the system sets in, — if so, no further increase will be requisite for a little time at any rate, or even a reduction may again be called for; but if not, fifteen minims three times daily may be given with the utmost confidence. With proper care, nothing is likely to ensue beyond trifling sickness."

Under circumstances of health, when the tongue becomes coated and the system is intolerant to arsenic, calomel, Mr. Milton holds, will best tend to check the progress of lupus, and improve the general health. But he notes that it is absolutely necessary that the calomel should act as a purgative. Anything short of this he believes to be useless. At first he gives a small dose, say a grain, twice a week. This is usually sufficient. When this dose fails, the quantity must be increased and the action aided by an aperient.

The use of iodide of potassium Mr. Milton restricts to cases of lupus confined to the limbs.

Of outward applications Mr. Milton says: —

"I believe that their principal value is restricted to excluding the air, and that those are the best caustics which effect this most certainly and with the least pain. Perhaps the nitrates achieve this result more certainly than any other means. When the patient can remain indoors, and does not care about the dark stains caused by it, the nitrate of silver may be used;¹ it is an excellent remedy either solid or in saturated solution. In the lupus of children, even a very weak solution can scarcely be borne. Here it is not a bad plan to use a solution of sulphate of copper² for some little time till the sensibility has become rather deadened. The

¹ It was a favorite remedy with Rayer. — *Theoretical and Practical Treatise*, p. 681.

² R. Cupri sulph. gr. vj; aquæ rosæ ℥ij.

acid nitrate of mercury is a very valuable preparation, and has the advantage of not forming so dark a crust; it is peculiarly suited for small, not very sensitive ulcers and tubercles. It may be brushed with a glass brush over the part, and should be used at first diluted with water till the full strength can be borne. When applied, a basin of water should always be at hand, and so soon as ever the pain begins to be felt, the surface should be freely washed. The yellow nitrate of mercury may also be used in the form of ointment made with the lard as prepared by Mr. Squire; it is chiefly adapted to those cases where there is only slight or superficial ulceration, and to the lupoid form of syphilis; it answers very well for those patients who cannot well have anything applied which produces a visible mark."

Mr. Milton adds much excellent advice upon diet, states that the surface affected with lupus should not on any consideration be touched with cold water, and terminates his pamphlet with the reports of several cases.

L.—On the Rational Employment of Mercury in the Treatment of Syphilis. By Dr. COLOMIATI MEREDYTH. London: Robert Hardwicke. 1866. 8vo, pp. 41.

This is a temperate summing up of the argument in favor of the use of mercury in the treatment of syphilis. Dr. Meredyth gives an interesting sketch of the introduction of mercury into the treatment of the disease. He shows the limitations to its use which a progressively increasing knowledge of syphilis has brought about, and satisfactorily elucidates the error which underlies the reasoning of the anti-mercurialists. The pamphlet will be read with profit by all who take an interest in the discussion.

LI.—LXIII.—PAMPHLETS ON CHOLERA.

Epidemic Cholera and Epidemic Diarrhœa: Can these Diseases be Prevented? Practical Suggestions for diminishing the Severity of and Mortality from these Epidemics. By Dr. CAMPS, M.D., M.R.C.P., &c. London: H. K. Lewis. 1866. 8vo, pp. 7.

Dr. Camps proposes a scheme of medicinal prophylaxis against cholera. Its application is best stated in his own words:—

"The great pathological problem to be solved, the beneficial sanitary result to be obtained, in this condition of the entire community, is this:—How, or by what means can the population of our towns and country districts be placed in such circumstances, as that they shall not morbidly succumb to the pernicious influences surrounding them? I entertain a strong persuasion, almost amounting to conviction, that this may be done in the mode now indicated; in other words, that we possess the means to accomplish this most desirable end. And this, too, mainly and medicinally, by the internal administration of *quinine* and its salts. I would have our families, wherever threatened with an attack of Epidemic Cholera, or of Epidemic Diarrhœa, so placed under the influence of *quinine*, as to become *quinidized* or *cinchonized*, or they might be *salicinized*, or *arsenicized*, by the administration either of *salicine*, or of *arsenic*. The mode herein indicated, aims at the diminishing, or even at the destroying of the predisposition to take these diseases; without which they can take no powerful hold upon the animal organism.

"I would, therefore, most strongly recommend that all persons employed in any way as attendants upon or about those attacked with epidemic cholera or diarrhœa should not fail to take from time to time repeated doses either of *quinine* or of *salicine*, with the view to protect themselves from attacks of these diseases, by diminishing or possibly by destroying altogether any predisposition they may have to fall victims to their influence when exposed thereto. The class of persons here referred to need not be specially indicated; every description of attendants upon the sick being included in this category, as friends, nurses, sick visitors, &c. &c."

Examen Critique des Diverses Opinions sur la Contagion du Choléra.

Par le Docteur STANSKI, Ancien Interne des Hôpitaux de Paris.
Paris: J. B. Baillière et Fils. 8vo, pp. 144.

Dr. Stanski finds himself in a difficulty at the commencement of his argument. In dealing with the hypothesis of the contagion of cholera, he finds himself about to fight a shadow. Not a solitary fact do his opponents advance with which he can grapple. They cannot produce any peremptory proof either of choleraic germ, miasm, ferment, principle, and so forth. Their sole argument is *post hoc, ergo propter hoc*. Like the circle-squarers and the perpetual-movement mongers, they cry out, prove that our view is not the true one. Nevertheless, the question they have raised narrowly touches the comfort and interests of humanity. Logical quibbles and errors of reasoning must not, therefore, deter the thoughtful from investigating it. Dr. Stanski, therefore, addresses himself to the task, and much to his own satisfaction endeavors to show the folly of the belief of cholera being a contagious disease.

Doctrine Stœchiologique du Choléra d'après les travaux récents.

Par A. PAPIN-RUILLIER-BEAUFOND, D. M. Paris: G. Baillière.
1866. 8vo, pp. 64.

Dr. Beaufond seeks to unfold the ultimate morbid change—the stœchiological modification—which gives rise to cholera. He seeks to show that the disease is a general malady, belonging to the class of virulent disorders and of miasmatic origin. The first method of comprehending the nature of such a malady, he holds, is to study the changes determined by the malady in the anatomical elements and fluids of the body, to seize upon the immediate poisonous principles, to determine the nature of the new property they have acquired, and in what manner these new properties are incompatible with life.

Du Choléra Asiatique comme Conséquence d'un Élément Morbide de Nature Organisée.

Par M. FAUCONNET, Officier de Santé. Paris: E. Savy. 1866. 8vo, pp. 64.

M. Fauconnet endeavors to show that the morbi-genetic principle of cholera is an animalcular principle of the nature of a ferment. This principle is susceptible of transportation by the atmosphere, short, but successive distances, and by vessels, either through men or merchandise, to greater distances, after the fashion of those animalcules in a larval or perfect state, like the diminutive diaphanous butterflies, invisible to the eye. It follows that the propagation of these animalcules, in the localities where they are transported, would be brought about most fully where the sanitary condition of the places was worst. Also it is easy to conceive how the common means of prevention by domestic and public sanitary measures would be fatal to their existence. Finally, Dr. Fauconnet maintains, the direction of search for medical treatment is in the discovery of such means as will destroy this animalcular life without injuring the sick.

Le Choléra est-il Contagieux?

By le D. HALMAGRAND. Orleans: Vaudecrainè. 1866. 8vo. pp. 32.

Dr. Halmagrand endeavors to show that cholera cannot be communicated either by contact, the dejections whether from the stomach or the bowels, the emanations of the patient, or by inoculation with his blood. He believes that the cause of the disease is to be found in the atmosphere and on the surface of some localities, and that it possesses a power of spontaneous migration.

Suggestions in reference to the Present Cholera Epidemic, for the Purification of Water Supply, and the Reclamation of East London. With Remarks on the Origin of Cholera Poison: Proofs given in facts connected with the Sources of Water Supply in India. With illustrative incidents descriptive of successful preventive measures and curative efforts. By WILLIAM SANDERSON, C.E. London: Wm. Macintosh. 1866. 8vo. pp. 31.

We fear that Mr. Sanderson's speculations on the origin of the cholera poison will command less respect than his facts relative to the connection of cholera-outbreaks in India with the state of the water-supply. These latter may be read with profit and interest.

The Human Blight and Cattle Blight; or, an Explanation of the Cholera and Cattle Plague. London: Longman & Co. 1866. 8vo, pp. 30.

The author of this pamphlet must state his own views:—

"From the regions of the East there settle upon our land, every now and then, what are called 'blights.'

"These blights consist of animalculæ.

"In the case of the vegetable world, it is clear that these 'blights' come to destroy different plants. One blight settles upon all the apple-trees, wholly passing by the other trees of the garden; another blight descends upon the currant-bushes; another upon vines, and so on.

"Each of these consists of insects expressly formed for the purpose of settling upon and devouring a particular kind of vegetation only, and which finds no sustenance in any other.

"The cattle plague is caused by a blight of insects expressly formed for the purpose of settling upon and devouring the mucus of the intestines, and ultimately the intestines, of cattle.

"The cholera is caused by a blight of different insects, expressly formed for the purpose of settling upon and devouring the mucous of the intestines, and ultimately the intestines of man."

These propositions are examined in detail with a charming freedom from doubt on the part of the writer. His comments on Dr. G. Johnson's theory and practice deserve quotation:—

"The old theory proceeded upon the notion that the symptoms of cholera proceeded from an excessive drain of fluid from the blood. Dr. Johnson's view, as I collect it, is that the symptoms of cholera are caused by an impediment which takes place in the passage of blood from the right to the left side of the heart, through the lungs; and he believes that the blood in cholera contains a poison, the irritant action of which excites contraction of the minute pulmonary arteries, and thus arrests the flow of blood through the lungs.

"This appears to me to be mistaking a symptom for a cause. The sudden devouring of the mucus of the intestines by a crowd of insects is sufficient to account for every peculiarity of the cholera patient; every vital function is impeded; paralysis of the eighth pair of nerves supervenes; and though the actual quantity of blood in the system is not lessened, there is such an abatement of the energy of the heart and lungs, by which the blood is properly circulated, as to account fully for all the symptoms of the collapse in cholera" (p. 13).

This is exquisite fooling.

Cholera: a New Theory. By C. DUDLEY KINGSFORD, M.D. J. Churchill and Sons. 1866. 8vo. pp. 16.

There is but one known poison, Dr. Kingsford holds, which kills in as short a space of time and with symptoms like those of cholera, namely, phosphorus. Dr. Kingsford surmises that phosphorus may be the essential poison of cholera,

and that it may find its way into the system in the form of phosphuretted hydrogen. He seeks to show that the conditions under which cholera is developed are those favorable to the development of the gas in question. Even in the recent outbreak of cholera in East London he finds some support of his opinions:—

“To account for the recent sudden outbreak of cholera at the east end of London, I will mention one very significant circumstance, which was told me by a highly respectable inhabitant of Whitechapel—that on the Saturday previous to this outbreak a very large importation of mackerel, packed in ice, arrived in the market, and was greedily bought up by the poor; the fish were sold for a penny a piece, and within a short time after they were exposed to the air, and consequently thawed, they were totally unfit for consumption; and that on the same evening, to his knowledge, a large quantity of meat was sold, which became putrid by the following Sunday morning. Now, in Miller's *Elements of Chemistry*, vol. i., is found:—‘Sea-fish in general, whiting, herring, and mackerel, in particular, soon after death exhibit a luminous appearance; . . . if the fish be exposed to a cold sufficient to freeze it, the luminosity disappears, but it returns when it is thawed.’ I would ask, then, if phosphorus be the *fons et origo mali*, how can the increase of the disease in this instance be better explained?”

Even pestilences, it would appear, have their comical aspect.

A Simple Explanation of Cholera: and a Natural Mode of Treating it. By YON, M.D. London: Renshaw. 1866. 8vo, pp. 16.

Like most simple explanations, this exacts more from the faith of the reader than more elaborate theories. In so far as the writer seeks to simplify the treatment of cholera, by urging the internal use of water, and using such medicaments only as will allay the irritation in the bowels, he is to be commended.

On Cholera: its Nature and Treatment. Being the Debate in the Harveian Medical Society of London. Edited by Dr. C. DRYSDALE, Honorary Secretary of the Society. London: Robert Hardwicke. July, 1866. 8vo, pp. 34.

A promiscuous discussion, which is not amended by the introduction of the Secretary, and which it was an error to publish.

Brief Remarks on Cholera: being the Result of Observations during the two last Outbreaks of Cholera in England; and an Attempt to advance a Theory of that Disease which shall lead to a more consistent Method of Treatment. To which is added a short Table of Practical Rules for general use during an Epidemic. By ROBERT J. SPITTA, M.D. Lond. London: J. Churchill and Sons. 1866. 8vo, pp. 15.

Dr. Spitta assumes that the cholera poison is an organism in the air, and that its mode of entrance into the system is by the food. The reception of the poison gives rise to irritation of the alimentary canal, its absorption into the system, and collapse. In the first stage opium is the chief remedy; and in the second, calomel. Neither the theory nor the practice betray novelty, and the latter does not hang very consistently to the former.

Do Small-pox and Cow-pox afford any Protection from Asiatic Cholera? with some Observations. By AMBROSE BLACKLOCK, Surgeon-Major, H.M. Madras Army. London: H. K. Lewis. 1866. Fcap. 8vo, pp. 87.

The main object of this pamphlet is to sustain the proposition that persons who have had well-marked cow-pox, at no distant period, say within five years, are fully protected from Asiatic cholera as well as from small-pox. “This, however,” writes the author, “is not, in my mind, a positive fact; it is only an

impression, but an impression strengthened to some extent by the known identity of the small-pox and cow-pox poisons, which renders it highly probable that as persons with variolous marks have a singular immunity from cholera, those who have good vaccine scars, imprinted at a time not too remote, are also well-protected from cholera spasmodica." The author advances other arguments in support of his impressions.

Cholera Non-contagious, and the Absurdity of Quarantine Restrictions Demonstrated. By EDWIN HEARNE, M.B. Lond., F.R.C.S. Eng. Southampton: Gutch. 1866. 8vo, pp. 38.

Dr. Hearne writes strenuously against the opinion that cholera is a contagious disease, and he strives to show the absurdity of quarantine against this malady and yellow fever.

APPENDIX.

Rules for the Guidance of Sanitary Authorities, Practitioners, and the Public during the Prevalence of Epidemic Cholera.

By the Professors Dr. W. GRIESINGER, Dr. MAX VON PETTENKOFER, and Dr. C. A. WUNDERLICH.

[The following instructions respecting the restraint and prevention of epidemic cholera, drawn up by three of the most distinguished German physicians, each of whom writes with special authority on the subject, and representing the most advanced teachings of the day, are so full of instruction and interest, that we have translated them without curtailment. — ED.]

Introduction.

The cholera, this year, has made its appearance early. How far it may extend is uncertain. The dryness of the year 1865, of the past winter, and of the present spring, renders doubtful any great epidemic extension of the disease in many parts of Germany. Yet we are far from knowing all the conditions of the epidemic sufficiently to have any certainty in this respect. The movements of troops in Germany, when once a few centres of the disease have been established, may cause its rapid spread in districts predisposed to it; and, even if we should escape during the present summer, who can tell when this destructive malady may again threaten us?

With regard to the spread of cholera, and the causes of its epidemic prevalence, science is in possession of certain established positions, resting upon careful examination of sufficient data. These positions are known to those medical practitioners who have closely devoted themselves to the subject; but many know them only imperfectly, or, by reason of unfounded doubts, do not hold them with full conviction. By the public these positions are almost entirely unknown; although they afford the only basis for any effectual measures of prevention, and although they are very simple and intelligible to every one. When cholera approaches a place, we commonly see among the inhabitants only a bewildered terror, and a grasping at expedients that are useless, or even hurtful, although vaunted by greed; instead of a firm resolution on the part of each one to combat the common enemy by a consistent application of the means that science and experience point out as efficacious, and by which every one can best protect his own threatened life. The sanitary authorities themselves are frequently uncertain about the utility or the necessity of the most important measures, such as quarantine, seclusion, and disinfection. It need therefore be no matter for surprise that really effectual measures are often neglected, or, on the contrary, that wholly useless or absurd procedures should be put in practice. In this spring, for instance, in one of the small epidemics, we have seen the air of the streets fumigated by burning juniper-berries!

Under these circumstances it seemed to us advisable to put together, in a concise form, for the use of sanitary authorities, of the medical profession, and of the public, those principles with regard to the spread of cholera which are firmly established on a scientific basis, and on which the chief preventive measures are themselves founded; and to show both the scientific grounds of such measures, and the proper methods of carrying them into practice. We have done this in the following pages; and we confidently hope that our communication will receive attention, and that the calamities which cholera epidemics entail upon human society may be diminished by the consideration and observance of what we have here laid down.

With regard to disinfection, we have furnished practitioners and authorities with a principle of practical application, which was, indeed, the basis of many of the methods formerly in use, but which had not previously been stated with sufficient clearness and precision. This principle seems to us to flow immediately from known and proved facts; and from its complete expression we may expect a final determination of a well-defined question, and hence a step in our knowledge of, and our opposition to, cholera.

For the comprehension of cholera, a right observation of the epidemics is the first necessity. We therefore thought it not superfluous to state, in the second part of our tract, the essential points to which useful observations must be directed. This part is addressed only to the medical profession and to the sanitary authorities. It states briefly the matters about which information is required by science, in order that the occurrences during an epidemic may be correctly stated, and rendered fruitful for the prevention or suppression of future visitations. It is impossible that all points of this programme of observation should be equally well carried out in all places. It is better that one part of it should be carried out, earnestly and consistently, than that all should be attempted, with insufficient means and divided force. In large or moderately large states, where chiefly there will be opportunities for a complete fulfilment of the programme, a division of labor in accordance with the different aspects of the facts is essential.

We hope that our little tract may conduce to identity of management and of observation on the part of governments and sanitary authorities.

A. MEASURES AGAINST THE EXTENSION OF CHOLERA.

It is the fact that cholera—that is, its specific cause, its germ—is disseminated through the personal intercommunication of mankind. According to observation hitherto, we may assume that this germ is contained chiefly, probably exclusively, in the intestinal evacuations of persons coming from places infected by cholera, and suffering from diarrhoea or cholera themselves. Whether persons not so suffering, but feeling perfectly well, and only coming from infected localities, are likewise capable of disseminating the germ, can, in the present state of knowledge, neither be affirmed nor denied with certainty.

Notwithstanding active intercommunication, and a presumed abundant dissemination of cholera germs, there are many times and places in which epidemics of the disease do not occur. We must therefore assume that the dissemination of the germs must coincide with the presence of certain auxiliary causes—temporary, local, or personal—in order that an epidemic may be produced. It cannot be doubted that the most important of these auxiliary causes must be due to the qualities of the soil, and to the personal condition of individuals. Hence the measures for preventing the spread of cholera must be founded upon a consideration of three essential points: 1. Upon the cholera germ in the evacuations; 2. Upon the local peculiarities of soil, especially in the subsoil of dwelling-places; 3. Upon the condition, that is, the state of nutrition and the manner of life of the people.

SECTION THE FIRST.

DISINFECTION.

§ 1.—*The Principle of Disinfection.*

The evacuations containing the cholera germ can be so altered by chemical agencies as to lose their injurious action.

The fresh evacuations of cholera patients, or of persons coming from places where cholera prevails, do not exert a poisonous (cholera producing) action; but differ, in this respect, from what is seen in other infectious diseases, such as small-pox, in which the sufferers communicate a mature and active infectious material to others. It is only after the occurrence of a certain decomposition and change, which very probably takes place external to the organism, that the cholera evacuations acquire the property of producing the disease in healthy persons; and it is only when the already mentioned predisposing or auxiliary causes are in operation, that an epidemic extension of the disease can be occasioned. The cholera germ, whether we conceive it to be a poison, a ferment, or a cell, must therefore be an organic material, for the development of which certain external conditions are required.

At present no practicably applicable means is known, by which either all the organic components of urine and fæces may be instantaneously destroyed, or by which changes in them external to the organism may be prevented, so as to preserve them in their fresh condition. There is, however, reason to believe that this is not necessary for the destruction of the cholera germ. It appears to be sufficient so far to modify the decomposition of the excreta, by the admixture of certain substances, that the conditions under which the cholera germ is commonly developed may be retarded. Although we are unacquainted with the exact nature of the cholera germ, and with the changes that it undergoes before it becomes active in the causation of disease, yet we are able, with great probability of being in the right, to lay hold of certain chemical indications, with respect to disinfection, in the fluids that convey the cholera germ, both before its infectious action begins and after it has acquired this peculiarity.

Every mixture of recent urine and fæces acquires, after a few days, an alkaline reaction; the result of a spontaneous decomposition that produces carbonate of ammonia. The evacuations of diarrhœa are often alkaline from the first; and the evacuations of cholera are alkaline as a rule. Experience has long since shown, and chemistry teaches, that a great influence is exerted upon the occurrence of certain changes and decompositions, in organic matter that is moist, or suspended or dissolved in water, by the reaction of the fluid portion, so that certain changes occur chiefly in acid, others in alkaline, others again in neutral fluid: and for many the one or the other reaction is even an indispensable condition.

With regard to the cholera germ, or cholera poison, it is a matter of fact that its development is in no way hindered by the presence of even a very considerable quantity of carbonate of ammonia or sulphide of ammonium (substances with an alkaline reaction); but, on the contrary, the facts show with great uniformity that the germ, once introduced, everywhere multiplies and increases the more abundantly, the more extensive and potent is the action of the constantly alkaline contents of cesspools upon the soil and the atmosphere of a house.

It must therefore be considered extremely probable that the alkaline reaction of excrementitious fluid, from the presence of carbonate of ammonia, is among the most necessary or essential conditions for the development of the germ or poison of cholera. Upon this ground it may be anticipated that the retardation of the occurrence of alkaline reaction, or, where it has occurred already, its complete neutralization until a decided acid reaction is produced, may prevent the development of the noxious germ.

§ 2. *Enumeration of the Principal Disinfectants.*

In order to fulfil the above-mentioned disinfection, several agents may be employed; and from among these we have to select such as can be procured easily in sufficient quantity, and such as exert no hurtful influence upon mankind or upon dwellings.

All metallic salts that have an acid reaction, and are soluble in water, may be used as cholera disinfectants. Among these the sulphate of iron is the cheapest, the most common, and the most easily procurable in bulk.

Chloride of manganese, a product obtained in the manufacture of chloride of lime, is of equal value with the sulphate of iron, if it be first freed from hydrochloric acid, by neutralization with metallic iron, or by other methods of removal. In the vicinity of chemical works, the chloride of manganese is commonly cheaper than an equivalent quantity of sulphate of iron; but the whole quantity produced is too small to be generally employed as a disinfectant.

A similar purpose is fulfilled by the use of the soluble salts of zinc, the sulphate and chloride. These are more expensive than sulphate of iron; but do not produce rust stains when scattered about.

The power of preserving recent excreta in an acid condition is possessed also by many other substances; among which carbolic acid (hydrate of phenyl, Frankfort creosote) demands prominent mention. It can be made from coal in great quantity; and, since, for this purpose, purity is not required, at a cheap rate. Unfortunately, it is not now to be procured in sufficient bulk for general use as a disinfectant; and, moreover, it is useless without the simultaneous application of a metallic salt (sulphate of iron), in cases where it is required to restore the acidity of excreta that have already become alkaline. The preserving power of the metallic salts may, however, be very greatly increased by an extremely small addi-

tion of carbolic acid. A solution of carbolic acid may be considered equivalent to crude pyroligneous acid.

The substances already mentioned are all employed in a liquid form, dissolved in water; but there are cases in which a gaseous disinfectant is required, as, for example, when places are to be disinfected (such as irregular cesspools, inaccessible drains and sewers) which offer insurmountable obstacles to a complete saturation with fluid. In such cases we should employ volatile or gaseous acids, among which the sulphurous acid is chiefly to be recommended. It may be obtained by the combustion of sulphur or of sulphur matches, or by treating sulphites with concentrated sulphuric or hydrochloric acid.

The agents already enumerated act in accordance with their chemical qualities, by retarding or preventing the alkalinity of the excreta. Besides them there is yet another substance that has been largely used as a disinfectant—namely, chloride of lime. There are no certain facts known with regard to its action; and although it would perhaps be erroneous to pronounce it wholly inoperative, it would certainly not be wise to place, in the same category with the preceding acid reagents, a substance of an entirely different nature, that by its alkaline reaction could only interfere with their efficiency, and that moreover cannot be obtained in quantities, and at a price to render it available as a general disinfectant.

§ 3. *The Quantities in which Disinfectants should be employed.*

The question as to the quantity of any disinfectant that should be employed may be answered by saying that the end sought is attained when the excreta, and all that is mixed with them, possess a decided acid reaction; and retain it until they can be moved away from the vicinity of human dwellings.

We may assume that twenty-five grammes of sulphate of iron (or an equivalent quantity of the salts of zinc or manganese) dissolved in water, would, on an average, be a sufficient daily quantity for each person. This calculation supposes that the population is made up of persons of all ages in the ordinary proportions; and that the recent excreta are not added to old collections, already in a state of alkaline decomposition. Such collections should either be entirely removed at the beginning of the disinfection; or, what is more simple, should be so liberally treated with the acid agent, as to completely destroy their alkalinity.

The quantity of twenty-five grammes is taken as an average for adults and children, for the diseased and for the healthy. A mixture of recent urine and fæces from a healthy person is almost always acid; but a similar mixture, from a patient suffering from diarrhoea, is very often alkaline when voided.

When such a mixture of excreta is actually acid, it can be kept so by a very small addition of carbolic acid. Where there is the opportunity of employing this agent, it is greatly to be recommended; since it not only perfectly fulfils the purpose of a disinfectant, but also represses more than anything else the factor of the excretions. Three grammes of pure carbolic acid, or four grammes of an acid not perfectly pure, as it is first separated from the crude carbonate of soda, dissolved in 100 grammes of water by agitation, will suffice for each person daily; supposing that the excreta are already acid.

§ 4. *The Objects to be disinfected.*

The disinfection must have reference, first to the excreta, and then to all contrivances or apparatus for holding, collecting, or conveying them; and generally to everything in which excrement has been contained. The excreta, whether urine, fæces, or matters vomited, should be discharged by the patient, when possible, into vessels already containing the disinfectant. Not only the evacuations themselves, and all utensils, buckets, water-closets, cesspools, sewers and pipes that may have contained them should be disinfected, but also soiled linen, clothing, or wooden floors on which excreta may have been spilt. The intestinal contents of cholera corpses, and everything soiled by them, must be treated in the same manner.

The medical advisers of the different local authorities should make such suggestions, that the rules above laid down may be adapted to the special conditions of each place.

For the disinfection of soiled linen and clothing, and also of wooden floors, the chloride of lime has heretofore been generally employed. With respect to it we can only refer to what has been said already. Sulphate of iron, and chloride of manganese containing iron, would injure clothing and floors, by covering them with

rust stains. Solutions of carbolic acid in water, or of the salts of zinc, have not this disadvantage. The carbolic acid produces great annoyance by its very persistent odor, and when applied to floors renders them extremely unpleasant for a long time; so that for linen and such matters watery solutions of sulphurous acid, or of sulphate or chloride of zinc, are to be preferred.

Above all things the public should be apprised of the important truth that the universal experience of practitioners and nurses proves that the recent evacuations, even in the most acute form of Asiatic cholera, are not sources of danger; and that there is the less to be feared the more speedily the proper steps for disinfection and cleanliness are taken.

It is self-evident that the most complete possible removal of all organic remains and foul substances from the vicinity of human dwellings, and the destruction of all worthless or suspicious refuse, should be strictly enforced; but never without a preceding thorough disinfection.

§ 5. *When the Disinfection should be commenced.*

It is an important question where and when disinfection should be commenced. In every epidemic of cholera it has been observed that many places, notwithstanding constant communication with other places smitten by the disease, have remained free, or at least have suffered no epidemic visitation; and also that places attacked in certain years have escaped in others, although no change has occurred in the intercourse or manner of life of their inhabitants. As reasons for these important phenomena it has hitherto only been suggested that peculiarities of soil may act as local, and variations of the earth's moisture as temporary causes of exemption. Upon this question the most important points will be referred to in the second section.

The determination of the question what places, or parts of places, or neighborhoods, and what periods of time, are most favorable to the development of a cholera epidemic, must depend upon careful local observation and research, such as hitherto could only be carried out long and closely enough in the smallest districts.

When the introduction of the disease and its epidemic development in any place is to be feared, we ought not to wait with our disinfectants until the epidemic character of the outbreak has been shown in several houses and cases. The disinfectant should not, as has often formerly been the case, follow the steps of the cholera from house to house, but should precede it. Disinfection is only important as a prophylactic.

When the disease has been introduced into a house, and an indubitable case of cholera has occurred among the inmates, it will, as a rule, be too late to disinfect; and when the patient has been infected in the house itself, the opportunity of receiving the poison will usually have been afforded at the same time to all the other inmates; and it will depend essentially upon the condition of individuals whether or not the disease will be further developed. Notwithstanding this, the use of disinfectants should never be omitted in houses where cholera has appeared, since they will at least prevent the further development of the germs.

When a case of cholera has appeared in a single house in a place, there is the more reason to hasten to disinfect the other houses, since the germs from the first may already have been conveyed to them, even before the nature of the disease has been medically and officially certified.

The concealment or neglect of the first case of cholera in a place is one of the greatest errors that can be committed, and usually occasions more injury than can be afterwards retrieved by the greatest efforts and sacrifices.

The water-closets of railway stations and hotels must be constantly disinfected so long as the introduction of cholera by travellers is to be feared.

The foul linen of strangers in hotels must be disinfected before it is sent to a laundress.

The period at which disinfection may be abandoned depends essentially upon whether the possibility of the introduction of germs, or the period of local predisposition to the disease, has ceased. In order to determine these points with sufficient accuracy to obtain a sure basis for practice, further investigations are required.

§ 6. *Superintendence of Disinfection.*

The actual carrying out of the disinfection may be left to the owners of the separate houses, although it is better undertaken by the local authorities; but in either case it requires careful medical supervision. This supervision must determine that no alkaline reaction shall occur in any place where excreta are collected or conveyed; and that, if such should occur, it should immediately be supersaturated by acid.

In order to show the acid reaction it is sufficient to place a drop of the fluid, by means of a glass rod, upon a slip of litmus-paper, and to observe that this is reddened.

When the reaction is alkaline, this may be shown by placing a drop of the fluid in the same manner upon yellow turmeric paper, which will be turned to a red brown.*

If it is desired to test the air of drains, sewers, or pipes, for the presence of carbonate of ammonia, a slip of turmeric paper must be moistened with distilled water, and placed for half its length between two slips of glass. The whole must then be placed for a few minutes in the suspected air. The presence of the smallest quantity of ammonia will produce a marked difference in color between the covered and the uncovered portions of the paper.

§ 7. *Limitation of Intercourse.*

Since it is not to be doubted that the spread of cholera depends upon the intercommunication of mankind, it may be assumed that the spread would cease if all communication were suspended. But, as a complete suspension of intercourse would be a greater calamity than cholera itself, so have all ordinances tending in such a direction proved hitherto fruitless and illusory. Our efforts must be limited to an endeavor to render intercourse harmless, by strict enforcement of disinfection.

If the present opinions about the conveyance of germs, and about the essential nature of disinfection, be correct, it follows that the latter may afford as complete a protection as absolute arrest of intercourse, or as the natural immunity of certain places.

It is only on the sea-coast and in seaports that an arrest of intercourse can be enforced with good results; when ships coming from infected ports are prevented from landing anything until after the lapse of the longest period of incubation that has been observed in cholera; or when the crew and passengers are kept in strict quarantine for the same period of time.

Such quarantine should be maintained for at least four weeks, and should be so arranged that the arrivals can communicate no infection to persons departing.

The disinfecting regulations must be most carefully observed in all quarantine establishments.

SECTION THE SECOND.

ON THE LOCAL OR TEMPORARY PREDISPOSITION.

The local or temporary predisposition is chiefly influenced, according to the present state of the inquiry, by the permeability of the soil by water and air, by its varying fluid contents, and by its being impregnated with organic and decaying nitrogenous materials.

A soil that is impermeable, or but slightly permeable, by air and water (a close rocky soil, for example), is little or not at all liable to an epidemic outbreak.

Porous soils, and even rocky soils that are split up by numerous and deep fissures, filled in with earth, do not afford the same protection.

When an impregnated porous soil has been unusually saturated with moisture, so that the air has been forced out of it for an unusual time and to an unusual height by water, the rapid subsidence of the water favors the epidemic development of cholera in such places.

The more the surface layers are impregnated with decaying organic matter, the more dangerous will be the recession of the surface water, in case the germ of cholera should be introduced at the time.

The recession of surface water, and the consequent drying of soil that has been

thoroughly soaked for some time, appear to be of the greatest weight with regard to the time of outbreak of a cholera epidemic.

In river channels, in valleys, and at the feet of steep declivities, the above three factors are often in combined action; since these conditions of surface promote the formation, collection, stagnation, and variation of surface water.

Localities upon a ridge between two valleys, or between two water-sheds, show generally a much less degree of predisposition.

The courses of rivers very constantly show a less predisposition the nearer they approach to their water-sheds.

Against peculiarities of soil, surface water, and poisonous impregnation, scarcely anything can be attempted at short notice. When the introduction of cholera germs coincides with the presence of these three factors in an unfavorable sense, there is nothing to be done, save disinfection, but to avoid or desert the locality.

The above considerations are highly important, not only for those who fly from cholera, but also as guides in the choice of places for cholera hospitals or quarantine stations, and of camping-grounds for soldiers, railway-makers, or other workmen. Although it may often happen, in war, that strategic considerations have little choice of place, yet still this choice should be exercised as far as the demands of strategy will permit. A judicious preference of high levels with compact sub-soil is all the more important, when it is impossible to insure perfect disinfection of all excreta.

SECTION THE THIRD.

UPON INDIVIDUAL PREDISPOSITION.

In every house or place attacked by cholera, the greater number of the inmates are equally exposed to the epidemic influences of the germs and of the soil; and most of them experience at the time of an epidemic some change in their condition, although it is only in a comparatively small number that this change amounts to a dangerous outbreak of disease. The power of resistance against the epidemic is very different in different people.

In so far as the transudation of water from various organs into the intestinal canal is the most essential phenomenon of cholera, everything is of importance to the individual by which such transudation is promoted, favored, or occasioned. Among such influences are all by which the bowels are overmuch irritated or relaxed, all which drive the circulation from the surface of the body to internal organs, and all which either increase the normal fluid contents of the organs, or retard the normal discharge of water from the body.

Every person, therefore, should carefully avoid all influences which his experience tells him are likely to produce diarrhoea in his own case; and, if attacked by diarrhoea, should immediately seek medical aid. Medical house to house visitation of the healthy, so as to detect all illness at its commencement, has, in all epidemics, been of the greatest benefit to the poorer classes.

The establishment of stations for the care and observations of persons suffering only from diarrhoea, besides the special cholera hospitals, is greatly to be recommended. For such stations healthily-placed localities should be selected.

A natural state of constitution being presupposed, a great influence is exerted on the general condition of the body, by food, drink, clothing, residence, and occupation.

The consumption of tainted provisions and of impure water is, of course, to be avoided. The diet should be moderate, but supporting. A suitable blending of well-cooked soup, meat, and bread, in quantities proportioned to the digestive power, with light puddings of eggs and flour, and with vegetables, is to be recommended.

A large consumption of any kind of fluid should be avoided; and only so much taken, either of water, wine, or beer, as may be needed to satisfy thirst. Persons who are habitual spirit-drinkers in any quantity furnish numerous victims to the disease. The drinking-water should be pure and bright, the alcoholic drinks genuine and well fermented.

A sudden change of diet produces no immediate corresponding improvement in the state of the bodily organs; and it is often some weeks before the general condition is raised to the level of a better diet. At times when cholera is approaching or has appeared, the whole population should be better nourished than usual.

The clothing should afford a sufficient protection from cold, without checking transpiration. Being chilled will often drive the circulation from the surface of the body, and occasion congestion of internal organs or catarrh of the mucous membranes. The abdomen especially should be warmly clothed, which may be suitably done by a flannel bandage. Good beds and clean linen are important aids to uninterrupted transpiration.

Promotion of the functions of the skin by internal means, such as warm drinks (peppermint tea, chamomile tea, warm wine, and the like), is a matter that should be left to the medical judgment in each individual case. The same rule applies to the use of vapor, Roman, or Turkish baths.

The dwelling has the greatest influence upon the air that we breathe, that constantly surrounds us, and that uninterruptedly must yield us oxygen, and must withdraw from us proportionate amounts of heat, water, and carbonic acid, in order to preserve the normal condition of our bodies. Long continuance in a confined atmosphere, which withdraws too little water and carbonic acid, is shown by experience to increase the disposition to cholera in a high degree. The absence of fresh air, bad ventilation between the decks of overcrowded ships, in crowded barracks, prisons, or rooms that are too small for the number of inhabitants, has been shown by much experience to be a frequent cause of violent choleraic outbreaks. Among persons who have received the cholera germs in some infected place, and have afterwards been compelled to live in too little (that is, in much vitiated) air, the individual predisposition will be so much increased in a few days that many will be attacked by the fully developed disease; while others, infected at the same place, but afterwards living in a better air, often suffer very little, or even not at all.

During a cholera epidemic, therefore, all dwellings should be well and uninterruptedly ventilated, and kept thoroughly clean. The perils which are frequently and erroneously ascribed to too great a current of air, to what is called a "draught," may be obviated much better by clothing, bedding, heating, and so forth, than by shutting up the doors and windows.

No one can believe that the inclosed air of a house is better than the air of the street; but the house cannot generate its air for itself, and must obtain it from the street, generally in its immediate vicinity.

In a foul and stinking atmosphere the pernicious elements cannot be destroyed by an admixture of strong smelling matter (fumigation); but, as a rule, the objectionable smell is only concealed by another that is stronger, although more bearable. The air can only be really improved by ventilation, which dilutes all foreign matter contained in it.

The smaller or more crowded any house or chamber, the more necessary is complete ventilation.

It is a practice sanctioned by long custom to place chloride of lime in rooms containing a tainted atmosphere; although there is no proof of the smallest benefit from doing so. Chlorine certainly produces changes in most organic substances; but, if it were introduced in sufficient quantity for the disinfection of a dwelling-room, it would render the air of the room no longer respirable. We ought not to forget, moreover, that the human body is itself an organic substance, which the chlorine may attack.

If it be desired, during a cholera epidemic, besides a sufficient ventilation, to diffuse some odor through a dwelling-room or sick-chamber, the purpose is best fulfilled by some volatile acid, together with some æthereal oils. The acid should not affect the respiration. The sprinkling or evaporation of vinegar, or of acetic acid, in such quantity as to fill the air with the odor, can never be hurtful; and the acetic acid, on the principle already laid down, may be supposed to exert some power as a disinfectant.

Occupation and bodily movement in a certain degree, are not only conducive to health, but positively essential to its preservation. They must not be carried too far, nor allowed to produce great fatigue or exhaustion. Excessive exertion has a predisposing influence to disease, like debauchery, or excesses of any other kind, over-eating or drinking, acute emotions, and so forth.

Where a daily regular occupation is necessarily followed in a room, daily exercise should also be taken for some time in the open air. On days when the weather prevents going out, the exercise may be taken in a room with open windows.

SECTION THE FOURTH.

REGULATIONS FOR ARMIES IN THE FIELD.

Even for armies in the field it may often be very possible to guard against cholera, and to check its extension and its dangers, both for the troops themselves, and for the population of the seat of war. The claims of war will, in very many cases, not preclude due carrying out of prophylactic measures; and even for military results, such measures will often prove of greater advantage than successful battles.

1. It is self-evident that places in which cholera prevails should generally be avoided by troops on the march. It is true that to march through such a place, without halting, may be considered free from danger; but any halt, even for a few hours, either of detachments or of individuals, may bring cholera into the army—to break out mostly soon, but possibly only in from two to four weeks after its introduction. It is under all circumstances advisable for troops to encamp in the neighboring open country, rather than to go into quarters in a town infected by cholera. In large towns it may often happen that cholera is epidemic in certain parts, while others remain free on account of local advantages. When the military occupation of such a town appears to be necessary, the troops should take possession of the healthy parts only; and all traffic with the infected districts should be strictly prohibited. When a division is joined by recruits or reinforcements that come from places where cholera exists (although they do not bring any diseased persons with them), it is prudent to quarter the new-comers in a detached position for at least fourteen days, there to undergo careful medical observation and disinfection.

2. Where the possibility of choice exists, we should select the highest possible places and the dryest and hardest ground, such as the ridge of a water-shed, for the encampment of troops, and never excavated or moist ground. All excrements should be disinfected as a prophylactic measure.

3. If any cases of cholera, or suspicious forms of diarrhœa, show themselves, then—

a. All cholera cases should be immediately separated, and placed in a special hospital at some little distance, or, still better, in tents or huts. These should be set up at one side of the position of the troops, and on the dryest and most compact soil that is accessible; and the evacuations and clothing of the sick are to be treated in the way already described.

b. The cases of diarrhœa should also, when circumstances allow, be kept separate, and brought to special stations for observation and treatment, to prevent the outbreak of cholera: these evacuations being constantly disinfected by sulphate of iron. Where the circumstances do not allow this, the men suffering from diarrhœa should at least be relieved from arduous duty, should receive an improved diet, and should be made to wear an abdominal bandage, and to take proper medicines, especially small doses of opium. It must be made a point of duty for every man attacked with diarrhœa to report himself immediately to the surgeon; and daily medical inspection should be made with regard to fresh cases, and of the state of those already under treatment.

c. When cholera threatens an army, each division must have a diet regulated in the manner above laid down. The men must be cautioned against drinking much water, or much drink of any kind, against sour provisions, unripe fruit, and the like, and must take a comparatively dry flesh diet, with coffee, and a little brandy.

d. All fatigue and exertion of the troops that is not imperatively required should be forbidden during cholera time; such exhaustion certainly increases the liability to the disease.

e. The existence of cholera in an army should never be concealed; and if a division suffering from it is coming into a town previously free, the presence of the disease should be made known at once, and even before the arrival of the men, in order that proper disinfectant and prophylactic measures should immediately be commenced.

4. Any division of an army that has already suffered from cholera obtains thereby, for a long time, a diminished predisposition, or even immunity. If, therefore, it is necessary to occupy or to reconnoitre a neighborhood that is infected, and troops so seasoned are to be had, they should be selected in preference to all others.

B. SCHEME FOR THE OBSERVATION OF CHOLERA EPIDEMICS.

§ 1.

In the first place, the manner of occurrence of the first case of cholera in any place must be inquired into.

The chief questions are:—

Had the person first attacked visited within four weeks any place in which cholera prevailed?

Are there, in the house in which the first case occurred, strangers arrived from any place where there is cholera? If so, are they, α , cholera patients, β , diarrhoea cases, γ , healthy persons, or, δ , corpses dead from cholera?

Have any effects from a cholera-place, especially the soiled linen of cholera patients, been brought into the house?

Has the person first attacked visited (if he has not inhabited) houses into which cholera germs may have been introduced in any of the ways mentioned above?

What description of individual was the first attacked?

Has he been exposed to any powerful occasional cause?

What sort of care did he receive?

The time and place of the commencement of the first attack should be noted with great care.

§ 2.

With regard to the observation of the spread of the epidemic in a place, the first thing is to collect, from first to last, a daily list of occurring cases and of deaths; with mention of the house, story, age, sex, and condition (for this we append a simple table for the cases of death). The deaths should be published daily, with the streets and the numbers of the houses; but the occurring cases should not be published.

The inquiry should be conducted as far as practicable into the occurrence of cases in which the infection has been conveyed by individuals or fomites; and any clear and undoubted example of the conveyance of the disease, in which the influence of soil and place of residence could be satisfactorily excluded, should be scrutinized with the closest observation.

The possible action of infectious matter in a recent or already dry and changed condition, as in soiled linen and clothing, is to be noticed.

Any clear and certain facts about the time of incubation of the disease should be recorded.

Positive and negative testimony should be collected with regard to the spread of the disease to neighboring places, and with regard to the means of its extension. Also with regard to its extension along lines of railway.

Special investigation is required where the disease has been epidemic in autumn; and, after a pause during winter, has broken out afresh in the same place in the spring.

§ 3.

Concerning the auxiliary cause of an epidemic, the attention should first be directed to the geological character of the soil in the locality generally, and to the position and peculiarities of the substrata of the houses most severely visited (after the close of the epidemic, to those also that were least visited), whether they be rock, loose stone, detritus, sand, or loam. The strata of the locality should be observed from the surface to the bottom of the water springs. Where different strata overlies one another, their average height should be given; and it should be noticed whether one or other of them may occasion collections of surface-water from time to time.

Attention should next be directed to the level of the surface-water. If no former observations have been made upon this point, it is always of interest to make them during the epidemic, and to examine also the height of the neighboring springs. Where these do not flow over or from the first impermeable or water-guiding stratum, and where, therefore, the height of the springs is not a standard for that of the surface-water in the vicinity, special shafts should be made, in order to compare the levels at the close of the epidemic with those of a later period. Information should also be sought from the owners of springs, and from

other trustworthy persons, with regard to the water-levels and the moisture of the soil at the period immediately preceding the epidemic.

The houses that at the close of the epidemic have been most heavily visited must be the subject of special scrutiny, mostly of an obvious kind. Their high or low position, the stratum on which they stand, the position of neighboring sunken ground, the vicinity of running or stagnant water, or of heaps of pestilential matter, the building-materials of which they are constructed, the degree of moisture of the houses themselves, and of their court-yards, the condition of their closets, sewers, and traps, and the effluvia from them, the number of inhabitants in each house, the state of nutrition and general health of the inmates, and the state of their sleeping-rooms, dwelling-rooms, and workshops, comprise the chief points that should be noticed.

§ 4.

An actual extension of cholera has sometimes appeared to be due to drinking-water; and in other cases the first impression to this effect has been refuted by accurate examination. Inquiry should be made into the source from which the inmates of the severely-visited houses obtained their drinking-water, whether from the same source as many persons who remain unaffected. The peculiarities of any water suspected of propagating cholera should be noted, especially whether it throws down any dirty deposit, or whether it is believed or can be proved to be contaminated by cholera excrement.

§ 5.

The constitution of the individuals attacked should be inquired into; with particular reference to any changes shortly before the outbreak of the disease. Any abuse of alcoholic drinks should be noted. Fear, colds, dietetic errors (their nature to be specified, and whether they loaded the organs with too much water, or affected the intestinal mucous membrane), misuse of medicines (what medicines), are all points to be observed.

New and interesting observations may be made with regard to the action of the epidemic influence upon the healthy during the prevalence of cholera,—that is, upon persons neither attacked by cholera nor by diarrhœa. Did they experience any scantiness of urine, any tendency to cramps, &c. &c.?—and how far were such symptoms due to changes in their diet and manner of life?

§ 6.

Meteorological observations during the epidemic are of no value, except when compared with others previously kept over a long period or made at other places.

Whether the general character of disease before and during the epidemic has changed,—whether the epidemic was preceded by diarrhœa, typhus, and intermittent fever, and whether the two last-named diseases were frequent and often complicated by pneumonia, are questions that should be determined, wherever possible, by statistical inquiry.

Whether the epidemic has resembled previous ones or has been different from them, is a question to be determined at its termination.

§ 7.

With regard to the termination of the epidemic, it should be noticed what circumstances appear to have influenced its close. Whether, to what extent and in what manner, disinfection has been practised, and with what apparent result? Whether house to house visitation has been practised, and with what result? Whether the use of prophylactic means has been attended with advantage? Lastly, in what manner the cholera cases have been treated in hospital; and what has been the influence of this treatment upon the mortality, as shown by critically examined statistics?

There still remain, with regard to cholera, many other questions, the study and solution of which are of the greatest importance. We have strictly confined ourselves to mentioning the matters most necessary for ætiology and prophylaxis, and easily to be carried out. All besides we leave to the judgment of the inquirer and practitioner.

• *Form for Returning the Individual Cases of Death from Cholera in a Locality.*

Street, No. of House, Story.	No. of Dwellers in the House.	Name of Deceased.	Age.	Condi- tion.	Date of Death.	Remarks.

Form for Collecting the Individual Returns from Places into Police or Government Districts.

Govern- ment District.	Police District.	Place.	Number of Popu- lation.	Begin- ning	End	Number of Deaths.		Epidemic, House Epi- demic, or Sporadic.	Re- marks.
				Of the Fatal Cases.		M.	F.		

On the International Sanitary Conference, and the Preservation of Europe from Cholera.

By E. GOODEVE, M.B., Surgeon-Major Bengal Army; Honorary Physician to the Queen; Professor of Medicine in the Medical College, and first Physician to the Medical College Hospital, Calcutta; and one of the British Commissioners at the Conference.

(A Paper read before the Epidemiological Society, December 3, 1866.)

[Elsewhere we have briefly commented on the Reports of the International Sanitary Conference. The results of the Conference form so important a contribution to State Medicine, that we subjoin the following summary, by one of the British Medical Commissioners. — ED.]

“MR. PRESIDENT AND GENTLEMEN, — At the request of your Secretary, Mr. Radcliffe, I have drawn up for submission to the Society a sketch of the principal recommendations of the International Sanitary Conference of Constantinople for preventing the diffusion of epidemic cholera, and for the preservation of Europe from future invasions of the disease.

“The Conference has concluded that epidemic cholera originates entirely in India, and never in Europe; that it is a transmissible disease, following in the wake of man, and not carried by the atmosphere to long distances; that it is spread chiefly by the evacuations of choleraic patients; and that it rages most in localities which are in bad sanitary conditions. It believes that the cholera-poison may adhere to the surface of clothes, walls of houses, insides of ships, &c.; and

that these may be the means of communicating the disease to persons coming within their reach.

"Starting from these principles—the grounds of which it would be impossible to enumerate in the compass of this paper—it has based its measures of preservation; and asserts that Asiatic cholera is to be met by measures of restriction of intercourse when practicable, by measures of purification and disinfection, and by measures of hygiene.

"In the application of these measures the Conference has held in view the following objects—viz., to prevent the development and the spread of cholera in its place of origin—in India itself, and its exportation therefrom; and, in order to preserve Europe, to check its advance westward from India; and to limit its diffusion in Europe should fresh invasions occur.

"The Conference has not always gone into very minute details; but has rather contented itself with indicating in a broad manner the nature of the measures to be taken, leaving much of the minutiae to be settled by the local knowledge of those who will apply them.

"Inverting the order of enumeration above mentioned, I will speak of the recommendations in the following order:—

- "1. Of the sanitary measures.
- "2. Of the measures of purification.
- "3. Of the measures of restriction.

"*Sanitary measures.*—The Conference recognizes in the fullest manner the absolute importance of attention to the sanitary conditions of localities as a means of checking the development of cholera epidemics; and adopts the principle that against these safety for populations is to be found in the purity of their air, in the goodness of their drinking-waters, and in the cleanliness of the soil on which they live. In accordance with these views, it points out the necessity of sufficient space for dwellings, of ample room for lodging, and of free ventilation with air that shall be pure. To obtain the latter, it shows that, space and ventilation being secured, the purity of the atmosphere depends upon the cleanliness of the surface of the soil, and the non-impregnation of its substance with organic decomposing, and especially excrementitious matters. It believes that it is vain to expect that a town shall possess a pure atmosphere, one in which the choleraic poison has little tendency to multiply, if the soil is loaded with these matters. Hence the greatest care should be taken to prevent its infiltration with such. For this it asks for the abolition of all privies, with cesspools or wells, and the substitution for them of movable receptacles, such as earth-closets or 'fosses mobiles,' which can be frequently emptied and cleaned, and which may be so arranged that fecal matter cannot soak into the soil. The contents should be carried out of the towns. The Conference objects to the system of drains or sewers in communication with houses, holding that in practice we cannot prevent the diffusion of noxious gases through the houses in connection with them, and that in times of cholera, drains may spread the disease along a line of houses in communication with them; and that, owing to the porosity and rapid decay of masonry work, they readily allow of the impregnation and saturation of the ground through which they run with decomposing organic matters. When used, sewers should never be allowed to empty themselves into rivers, and water-closets should never be within the houses themselves. Burial-grounds should not be permitted within towns. Slaughter-houses and noxious trades should be forbidden. Not only should it be an object to prevent all human organic or excrementitious matter from penetrating into the soil of towns, but every sort of organic refuse should be speedily removed, before the atmosphere can become contaminated by their decay above or under the ground. In short, for a healthy town, no decomposing organic matter should penetrate its soil or rest upon its surface. As the decomposition of organic matter is retarded in a dry soil, towns should always be provided with surface, and where necessary with subsoil, drainage. As seaports are frequently the first places to receive arrivals from infected regions, it is obvious that it is of the highest importance to place them in healthy states, even more than it is for inland towns. The absolute necessity for pure water, and the great danger of the use of water contaminated by choleraic matters, are pointed out. The liability of contamination of the water of wells or streams near and among which cesspools or sewers lie is shown, as well as its unsuitness for use under any circumstances, and especially during cholera epidemics. It proposes filtration or boiling for water containing ordinary impurities, where none other can be had.

"The sanitary conditions insisted on by the Conference demand for their perfection the exercise of public and private hygiene. It may be doubtful how far in the present state of society private hygiene will assist in the great work; but all that may be called public hygiene in these recommendations may certainly be carried out, to the great advantage of the populations concerned. Public hygiene can regulate the width of streets, the space for habitations, the space for individuals, the direction and termination of sewers and drains, the description of privies, the scavenging of towns, and the provision of pure water. All these are the prime agents in combating the conditions in which cholera epidemics flourish; and if they could be faithfully carried out, as they might certainly be, the shortcomings of private hygiene would be of comparatively little moment. The Conference has not ignored the difficulties of obtaining the desired state; but it looks forward to the time when, to quote its own words, 'the minds of all men shall be penetrated with the truth that most endemic and epidemic diseases owe their violence and their spread to the massing together of people, and to the fatal customs prevalent among them. Then all will understand that it is in the power of man, at the same time that it is his duty, to overcome by his efforts that condition which he has created by his ignorance.' These measures are not to be taken only when cholera epidemics are near, but should be acted on at all times and in all seasons. They should be made permanent conditions. They may be costly, and they are in opposition to the system of sewerage in practice in England. It is probable, however, that reflection will show, and time will prove, the much greater security and efficiency of systems which seek to maintain the soil free from dangerous matters over those which allow them to permeate its substance. I will conclude this brief outline by saying that the Conference believes that if man is to be preserved from cholera epidemics, he must live on a clean soil, drink pure water, and breathe a sufficiency of pure air, and that under these conditions cholera will rarely rage around him.

"The sanitary recommendations are not confined to towns, but extend to ships, for which the importance of the limitation of the number of passengers, free ventilation, and provision of pure water free from all taint of choleraic discharges, are fully insisted on in the recommendations on naval hygiene and its appendix.

"*Measures of purification.*—To destroy the poison adherent to surfaces, and to prevent these from becoming sources of danger, disinfection and purification of houses, ships, clothing, &c., are required, and recommended upon the same principle as they are for other contagious diseases; but, in the opinion of the Conference, cholera requires in addition the chemical disinfection and destruction of all cholera evacuations, both of confirmed cholera and of diarrhoea. These should always be disinfected separately from common excreta, and never mingled with the contents of common privies or drains. They should be buried deeply out of harm's way, and where they cannot infect drinking-water. The Conference recommends that a general disinfection of drains, sewers, privies, and cesspools should be carried out by authority throughout the duration of a cholera epidemic, and until its extinction; that this disinfection should begin in a town immediately that the cases of diarrhoea in the track of an epidemic show the least tendency to increase; and that the use of all common privies should be forbidden to diarrhoeal patients during the prevalence of cholera. All linen soiled by cholera evacuations, or which has been in use by cholera patients, should be plunged immediately into solutions containing chloride of zinc or lime, or chlorate of soda, and remain immersed for twenty-four hours before washing, which ought to be thoroughly done, and combined with boiling of such articles; and that all articles which cannot be so treated, such as bedding and thick materials, should be burnt. The temporary abandonment of infected houses, barracks, and dwellings of all kinds, and their purification by free ventilation, sprinkling or washing the walls with solutions of chloride of lime or carbolic acid, and by the diffusion of sulphurous or nitrous acid gas, or chlorine gas, and whitewashing, should invariably be carried out; and several days, at least eight, should be allowed to elapse before their reoccupation. Measures of similar character are recommended for contaminated ships.

"The purifying agents most relied on are chloride of zinc, sulphate of iron, carbolic acid, sulphurous acid and nitrous acid gases, free ventilation, and a temperature of 212° to 250° Fahrenheit, for articles that can be submitted to it without damage. Certain kinds of goods, such as old stuffs, rags, skins, &c., should also be disinfected. It is not proposed to submit general merchandise to

disinfection. The bales of goods, however, have to be landed when a ship has to be disinfected.

"The opinion of the Conference on measures of disinfection and purification is expressed in the following resolution:— 'That measures of disinfection, applied to cholera on a well-arranged plan, and with perseverance, offer themselves as powerful auxiliaries—1st, for diminishing the liability of a locality threatened with cholera; 2d, for destroying the germ of the disease; and 3d, for limiting, in certain favorable circumstances, the spread of the epidemic.

"*Measures of restriction.*—A belief in the propagation of cholera by human intercourse naturally leads to recommendations of measures for limiting such intercourse, and these have been proposed by the Conference. It considers restriction as regards *cordons sanitaires*, isolation of the sick, complete interruption of communication between infected and healthy places, and the modified interruption known as quarantine. Restriction of intercourse has to be considered as regards land and sea, and, as applied to ships and passengers, demands the machinery of bills of health, inspection previous to embarkation at infected ports, lazarettos, and means of purification of contaminated or suspected objects.

"With regard to sanitary cordons, the Conference concludes that these, established in the midst of numerous and dense populations, are uncertain in effect; but that, on the other hand, employed over limited districts, or in countries in which the population is thinly spread, as in certain countries in Asia, cordons are of great use against the extension of the disease.

"With regard to isolation, it believes that when it can be applied to the first cases which mark the beginning of an epidemic, it is a measure of prudence which no country desirous of its own safety should neglect.

"With regard to total interruption of communication, it recognizes this as efficacious if practicable, but admits the impossibility of carrying it out in general; and contents itself with stating that interruption of communication is the best method of isolating cholera centres, and that in consequence it should be applied in all cases in which circumstances permit of its efficient performance, but that this measure—only applicable over limited districts—becomes impracticable and inefficacious when an epidemic is spread over a large space.

"On the question of checking emigration from infected towns to surrounding places, the Conference recognizes the great evil of the flight of masses of people from the seats of epidemics, and its influence in spreading the disease. It thinks that, without preventing persons from moving from infected towns, it would be well if they could be restricted to limited areas around these diseased localities. With regard to people moving away by sea, it would limit the number of passengers in each ship, and submit them to medical inspection and their goods to disinfection before embarkation.

"Quarantine is to be considered in its land and sea aspects. Land quarantines, from what has been already remarked, have not been often applicable; but in cases of caravans, troops, and masses of emigrants, it may be found occasionally very valuable. Maritime quarantine, however, on account of the greater facility of maintaining it, is considered to be much more likely to be efficient than that on land, and the conclusion was adopted that these quarantines, established on a rational basis and in conformity with the progress of science, may serve as effectual barriers to the invasions of cholera.

"The quarantines recommended are of two kinds—quarantine of observation and strict quarantine.

"1. Quarantine of observation consists in keeping separately and under surveillance a ship, its passengers and crew, for a period of some days from the time of the admission on board of the health guardians, the time to be regulated by the local sanitary authorities. It does not require the disembarkation of the passengers, nor the discharge of goods or merchandise, unless they be injured or in decomposition. It enjoins free ventilation of the ship and general measures of hygiene, but not its disinfection. It may be gone through at any port in which a sanitary establishment exists. In some special cases the passengers may be disembarked and landed at the lazaretto. It is applied to ships in good sanitary conditions, which have not suffered from cholera.

"2. Strict quarantine is the isolation for a fixed time of the ship and persons, with disinfection of all that may contain the seeds of the disease. It demands the discharge of all the merchandise into the disinfecting houses, the disinfection of certain articles or goods, and the landing of passengers at a lazaretto. It is

applied, 1, to ships from an infected port with a foul bill of health, with certain exceptions; 2, to ships which have had cases of cholera on board during the voyage, although they may have a clean bill of health. Strict quarantine begins with ships in ballast when the quarantine officers commence their watch on board; for other ships, after landing of the goods; for persons, immediately that they enter the lazaretto.

"Thus, according to the Conference, quarantine of observation is a term of probation, of simple watching; while strict quarantine consists in the landing of passengers at a lazaretto, with the use of disinfection and of every measure of precaution that can be applied to arrivals from infected ports.

"*Time of separation of suspected persons.* — The Conference has recommended by a majority the period of ten days as the time of separation or isolation of arrivals from infected places both for land and sea quarantines. This term has been fixed upon because, while it seems likely to accomplish all that we expected from quarantine, it will not be so onerous to the interests of commerce as the periods of sequestration adopted by some nations during the present epidemic. The Conference in this matter has endeavored to regard both the demands of commerce and the interests of science.

"No part of its task has been more difficult than the fixing of the term of probation. The period of incubation of cholera has not been anywhere determined with accuracy. On the one hand, it may be very short, probably less than one or two days from the reception of infection, as in cases of confirmed cholera occurring rapidly after exposure. On the other hand, we cannot tell exactly how long a time may pass after exposure before symptoms of diarrhœa begin to appear, or how long a diarrhœa may exist or be concealed before it passes into unmistakable and characteristic symptoms of choleraic disease. No quarantines can be efficient unless the element of diarrhœa is taken into account, as it is probable that persons with this affection are very active agents in propagating the disease, and more dangerous than others to the community, because they wander about unsuspected for some days after the commencement of their symptoms. Still it appeared to the majority of the Conference that in the larger number of cases a true choleraic diarrhœa would in the course of eight days have pronounced itself sufficiently to have prevented concealment of its existence.

"It was thought, therefore, that in fixing ten days as a period of sequestration, sufficient time would have passed to permit of the discovery of disease. Were the existence of all cases of diarrhœa discoverable, the difficulty would be much diminished. It is probable that much less than ten days would be required after leaving an infected place for the declaration of confirmed cholera or of the commencement of diarrhœa. As this cannot always be discovered, it was thought necessary to allow sufficient time for the disease to betray itself. The new plans of quarantine differ from the old in recognizing the vast importance of cases of choleraic diarrhœa, and in endeavoring to act against them as much as against cases of confirmed cholera. The Conference was well aware that a much longer period than this has been assigned to the duration of choleraic and infectious diarrhœa; but it must be borne in mind that all cases of diarrhœa occurring in cholera epidemic are not choleraic diarrhœa, and that many of the prolonged cases are not really choleraic. It may also happen that an exaggerated duration may have been given to cases which does not belong to them. Some of these may have commenced as common diarrhœa, the subjects of which were afterwards attacked with choleraic or specific diarrhœa. At all events, to have taken the four, five, or six weeks, which tables assign as the duration of some cases of diarrhœa occurring in cholera epidemics, as a rule for guidance in framing measures, would require an amount of quarantine which no people would or could tolerate in the present days of rapid communication. The Conference has therefore adopted the conclusion 'that strict quarantine applied to persons coming from an infected place be fixed at ten full days as a general rule, and that this quarantine should commence for all persons from the moment of their entry into the lazaretto. If, however, during the course of the quarantine, cases of cholera or choleraic diarrhœa appeared, the healthy persons should, after separation of the sick, recommence the quarantine of ten full days.'

"The Conference further voted that there is reason to consider as suspicious all persons affected with diarrhœa, to 'separate them from the healthy in the same manner as cases of cholera, and not to accord them free pratique at the end of the regulated period of quarantine until medical inspection has declared the non-

choleraic nature of the diarrhoea.' By thus submitting all cases of known diarrhoea to this severe trial, and throwing the responsibility of permitting them to end the period of quarantine upon the sanitary officer of the port, the risk attendant upon the escape of prolonged cases of choleraic diarrhoea will probably be corrected, and the necessity of quarantine based upon an unusual duration of choleraic diarrhoea be obviated.

"The Conference has considered the question as to whether the time of the passage may in any case be reckoned as part of the quarantine, and it has decided that in certain circumstances it may be safely allowed. The circumstances which will permit a ship sailing from an infected port to have this advantage are—first, the presence of a surgeon on board appointed to the duty; and secondly, the submission to a series of precautionary measures at the port of departure, during the passage, and at the port of arrival. The measures at the port of departure will be mentioned further on, the object being to insure a clean ship, inspection of the persons embarked, and absence of crowding. During the passage, measures of disinfection, free ventilation, and cleansing are required. All this is to be done under the inspection of the medical officer, who will keep a register of sickness occurring on board, and submit it to the sanitary officers at the port of arrival. Under these conditions, and with the absence of cholera or choleraic diarrhoea during the passage, the Conference is of opinion that the time of the voyage may be taken as part of the quarantine, and the ship will be submitted to twenty-four hours' surveillance only at the port of arrival. Most of the regular passenger ships meet the above conditions, or can make arrangements to comply with them without great difficulty. It will be obvious that ships under these conditions making long voyages will suffer but little delay, but the reverse is the case when the voyages are short. The scale of quarantine runs as follows:—

"A voyage of 24 hours	...	9 days of observation.
" 2 days	...	8 "
" 3 "	...	7 "
" 4 "	...	6 "
" 5 "	...	5 "
" 6 "	...	4 "
" 7 "	...	3 "
" 8 "	...	2 "
" 9 "	...	1 "

For those beyond nine days, twenty-four hours of observation should always be required.

"Merchant ships not complying with the above conditions, which have passed fifteen days on the voyage, and without cases of cholera on board, are allowed pratique after five days of quarantine of observation. For vessels in bad sanitary conditions, such as pilgrim ships, with crowding of people, and with cases of cholera or choleraic diarrhoea, the severest quarantine measures are to be adopted, and the period of sequestration may be prolonged if the sanitary authorities of the port of arrival think it necessary.

"These quarantine measures are calculated to encourage good hygienic arrangements in ships, because they favor all such as are in good conditions of health, and are very severe upon those which neglect precautions. They make the condition of the ship the guide to the mildness or severity of their application.

"Lazarettos have occupied much of the attention of the Conference. It will be impossible to mention in detail all the arrangements proposed. They are to be placed in situations such as islands, uninhabited spots, and where they cannot serve as centres of infection to the countries in which they are placed. By a majority the Conference recommend that, where geographical circumstances permit, lazarettos common to two or more nations would be desirable.

"The plans of the lazarettos provide for separate pavilions, with ample space for accommodation, and means for separating different batches of arrivals; and also hospitals for separating the sick from the healthy. The lazarettos are to be made as comfortable as possible, well provided with good water and provisions, to have sufficient and good medical attendance, and to be submitted to efficient inspection by superior authority. Should these recommendations be carried out, lazarettos will cease to be the wretched dens of the past, and, indeed, in many instances, of the present times.

"Much of the discomfort of the lazaretto, however, will be obviated by the

recommendation that ships in certain conditions shall be submitted to quarantine of observation only, which does not require disembarkation.

"On the whole, long as the period of ten days may seem to English minds, it would be difficult to devise quarantine systems with less inconveniences than those above mentioned, if security and efficiency are to be expected of them, and if they are to be adopted at all. They are certainly feasible in ordinary cases. They would probably be of little value in narrow seas, such as separate Great Britain from the Continent, unless *all* vessels arriving from all ports of the opposite coasts be quarantined when the disease exists in one or two ports only. It would not suffice to place the infected port merely in quarantine. This system would be so onerous that it would, doubtless, meet with great opposition; but in cases in which a ship would have to perform a voyage of two or three days or more from port to port, as in our own relations with Spain, Portugal, and the Mediterranean, it would be well worthy of adoption, and would, doubtless, check the introduction of cholera into the countries so placed: and this is the main point to be considered.

"The Conference has thought it would be an advantage to throw obstacles in the way of the exportation of cholera from an infected port, as well as to check its importation at the port of arrival, and has recommended a series of measures, which are embodied in the 'note additionnelle' to the measures of hygiene, the chief object of which is to submit to medical inspection all passengers embarking at the infected port, as well as the crews of the ships; to forbid the embarkation of all cases of cholera or of diarrhœa, except cases of chronic diarrhœa or dysentery provided with medical certificate; to insure the goodness of food and water, the cleanliness of linen and clothes, and to prohibit the embarkation of all merchandise susceptible of contamination, such as articles of clothing, rags, and skins.

"The Conference has considered the application of many of the foregoing recommendations to cases of towns threatened or attacked by cholera epidemics. During an invasion, daily medical visits should be made to the houses of the poorer classes, to ascertain their condition, and to afford immediate assistance if necessary. Popular and intelligible instructions should be issued, explaining the sources of danger and modes of propagation of the disease. The use of common privies should be forbidden, and the disinfection of cholera excreta rigorously carried out, as already mentioned. Separate hospitals, conveniently situated, should be provided; but in the event of this not having been done, and admission into existing hospitals being imperative (and where possible this is always to be avoided), patients should be placed in separate wards and isolated. The cholera sick should be conveyed in carriages specially destined to the work, and used for no other purpose; the evacuations disinfected; the soiled and other linen in use by patients placed immediately after use into solutions of chloride of zinc; bedding, thick clothes, and all such as cannot be safely disinfected, destroyed by fire. The nurses to be chosen, if possible, from persons who have already had cholera; that they have frequent reliefs of duty, and that their hours of rest be passed out of hospital or the sick-room. The dead of cholera should be wrapped up in the bed-clothes in which they die, and placed thus in the coffins, without the usual laying out of corpses; the coffin to be filled up with quick-lime. Houses of refuge to be provided for removal of families from the contaminated houses.

"Upon the question of the removal of people out of infected or threatened towns, the Conference thinks that it may be safely done before the epidemic breaks out. The diminution of overcrowding would be useful, and the emigration of the people is not dangerous to the places to which they fly. The case is otherwise when the epidemic exists, but this should not prevent the dissemination of people over uninhabited neighboring parts, or the camping-out on waste places when practicable. In this manner—by thinning of populations—the ravages of an epidemic may be lessened without risk to surrounding places. Encampments, however, should be submitted to the strictest rules of hygiene, and be provided with pure drinking-water. It is recommended that the authorities of places threatened with a cholera epidemic should see to the thinning-out or redistribution of the inmates, of all institutions or dwellings, among available buildings, where overcrowding exists. Fairs and congregations of people should be stopped, and the movements of troops suspended, when possible.

"The Conference has judged that, India being the place of origin of cholera, it would be of great moment to attack the disease in India itself, to prevent its exportation therefrom, and to check its progress westward by restrictive measures; believing that these will be all the more efficacious the nearer they are applied to

the sources of the disease. Cholera may reach Europe by sea, through the Persian Gulf, and by the Red Sea; by land, through Central Asia, Persia, Syria, and Russia.

"It would be very desirable that we should know something accurate of the mode of origin of cholera in India, and this would probably assist us to extinguish the disease in its cradle, or in the parts of India in which it is endemic. It is very possible that the endemic centres are the starting-points of the different Indian epidemics, and that as regards these, the endemic centres are to the greater part of India much as India is to the rest of the world. If we could extinguish cholera in the localities in which it is permanent, the Indian epidemics would perhaps not arise. This important point in the etiology of cholera, like that of many other diseases, is unknown. The manifest advantage of such knowledge has induced the Conference to appeal to the British Government to institute inquiries into the etiology of the disease, in the hope of thus obtaining information of great value in prophylaxis. Upon the question of the origin of cholera in places in which it is endemic or permanent, I wish to express my great doubts whether the disease has any local terrestrial origin; that there is any choleraic miasm proceeding from the soil as a natural product. It appears to me and to my able colleague in the Commission, Dr. Dickson, that the fact of cholera being a transmissible disease is sufficient to account for its permanence in certain favoring situations. A transmissible disease in conditions favorable to its multiplication—i. e., in bad sanitary conditions—may maintain itself permanently in a locality. If this is the case, we may dispense with ideas of spontaneous generation of the disease, or with the somewhat favorite theory of a miasm issuing from the soil of the Delta of the Ganges. The mode in which cholera has maintained itself permanently in places beyond the Delta of the Ganges, as in Bombay for instance, from which it has not been absent a single month during the last twenty years, shows its capability of assuming an endemic form in situations which can hardly be called its birthplace; and if it can do so in Bombay, why not in the towns in the valley of the Ganges, where bad sanitary conditions are rife enough, and where favoring meteorological conditions may also be found? It may be, then, that what may be called the endemicity of cholera is little more than a prolonged epidemic. It would be a fortunate thing for humanity if researches could establish this. It would be far more easy to extinguish the disease by removing the man-created favoring and remediable conditions of multiplication than it would be to alter the physical conditions of the soil of the Delta of the Ganges. The first is possible with well-directed and continuous effort; the latter may be fairly considered impracticable.

"The Conference thinks that the Congress of Hindoo pilgrims at the numerous shrines and fairs readily accounts for much of the propagation and diffusion of cholera in India; and it recommends the general adoption of measures of hygiene, and of restriction upon the pilgrims returning home, already in use in some localities. It also asks the Government of India to continue in the path of sanitary reform which it has already energetically commenced, and looks forward to great advantages therefrom, in diminishing if not extinguishing cholera. It submits that measures of restriction, where practicable, might, pending the full realization of sanitary measures, assist in checking the propagation of the disease.

"It is important, as regards Europe, to check the exportation of cholera from India. This is proposed to be done by raising barriers by land and sea. It is supposed by the Conference that it might be checked on the Punjab frontier by the Indian Government. I hardly think that this would be possible of attainment. There would be more probability of restraining its escape by the sea-board, by the adoption of the rules I have already mentioned as applicable to the ports of departure for ordinary vessels, and of stringent regulations for the ships which convey the Mahomedan pilgrims to Jeddah. The sea routes by which cholera may pass towards Europe are the Red Sea and the Persian Gulf. The Conference has left the Persian Gulf route to the ordinary rules of quarantine, but has, in addition to them, recommended special measures for the Red Sea route, chiefly on account of the Mahomedan pilgrims. Time does not permit me to do more than enumerate them. For the ordinary communications we have the quarantine regulations already mentioned. The Indian passenger-ships to be inspected at Perim, and made to perform quarantine at Tor if necessary, or to receive pratique at Suez, which they would get after twenty-four hours, as the voyage would be allowed to count as part of their probation. The pilgrim-ships, on leaving

India, to be subject to the Native Passengers Act of 1858 in the case of all ships and of all flags, and to the rules embodied in the recommendations of the Conference for the regulation of vessels leaving an infected port. On entering the Red Sea, to be inspected at Perim, and to perform quarantine, if necessary, at some lazaretto, the site of which has not been settled. At Mecca the same sort of scavenging, burial of excreta and all organic refuse, are always to be carried out, as they were for the first time this year. In the event of cholera breaking out in the Mahomedan Holy Land, the pilgrims may return westward by caravans if they please, in the journeys of which the disease would probably die out; or, if by sea, they must perform fifteen days' quarantine at El Wesch, in the northern part of the Hedjaz. Sanitary establishments are to be erected at Koseir, Souakim, Mussoweah, at Jeddah, and at Yembo, in communication with and under the control of an international sanitary body sitting at Suez. If, in spite of this, cholera should be carried to Egypt in any way, it was advised by the Conference that all communication between Egypt and the Mediterranean ports should be cut off during the course of the epidemic. Mails only, however, might be allowed to pass.

"Such is a bare outline of the measures proposed for the Red Sea route. I cannot help thinking that the inspection at Perim would be less valuable than the Conference supposes. It would certainly stop the large ships; but the danger to the Hedjaz is not only from the large ships sailing direct from India, or, I venture to think, chiefly from them, but also from the small craft which communicate between the Arabian coasts and the ports of the Red Sea, and which would escape observation. The lazaretto at the entrance of the strait presents many difficulties in providing supplies, anchorage, and defence against hostile tribes, and would not dispense with internal quarantine stations. It becomes, therefore, a question whether it might not be less troublesome to do away with the inspection at Perim, even if the British Government would permit the use of the island for the purpose of a station, and let the vessels clear out from Indian ports to recognized ports in the Red Sea at which quarantine stations might be instituted. The idea of arresting all vessels at the entrance of the Red Sea, and thus barring out cholera, is a good one in theory; but I think it questionable whether it can be made efficacious. The measures taken in the Hedjaz, and the quarantine applied to the western pilgrims at El Wesch, if faithfully carried out, ought to be very useful, and seem likely to check the progress of an epidemic westwards if it should again occur at Mecca. The British Commissioners voted against the radical measure of interruption of all communication with Egypt in the event of cholera being there. I would observe that I have not been able to discover good evidence, much as has been said about it, that cholera was imported into the Hedjaz direct from India last year. The two ships, *Persia* and *North Wind*, on board of which so much mortality occurred, had no choleraic disease when they left Singapore. The captains both state that the passengers and crews caught the disease at Mokulla, on the Arabian coast, and that it raged severely among them until they were opposite Leet, about one hundred miles below Jeddah. It appears, therefore, very probable that, in spite of all rumors to the contrary, the disease was not imported into the Hedjaz directly from India in 1865. It may, however, have been imported previously from India into some part of the Persian Gulf or Arabia. Unfortunately we are not sufficiently acquainted with the condition of Arabia to know to what degree, or how frequently, cholera appears there. The Conference has suggested the advisability of measures being taken along the Turco-Persian, the Russo-Persian, and the Russian frontiers in Central Asia. It is true that in some of these long lines certain passes only are available for communication, and that the line to be guarded is less troublesome than might be expected; but the people to guard them are not much to be depended upon. Too much must not be expected from these suggestions. If Persia would rouse herself to assist in checking the disease by the sanitary measures suggested by the Conference, as well as by general attention to questions of public health, valuable assistance might be afforded in arresting the advance of cholera in its progress westwards. Owing to the frequency with which cholera has appeared in Persia of late,—as, for instance, in the course of eleven years, 1851–62, there were cholera epidemics in 1851, '52, '53, '54, '55, '56, '57, '58, '60, and '61,—she must be considered as dangerous to Europe, as cholera almost threatens to become acclimatized there. Should cholera unfortunately again come westwards through the northern route, I fear that it will not be checked through Persia or Turkey in Asia, but that we

shall have chiefly to depend on such measures as may be taken in Russia, on its frontiers, and especially on the Caspian Sea, and upon restrictions in the Black and Mediterranean Seas. Should it come again by the southern route, I think that more success may be expected. The measures to be taken in the Hedjaz and the long quarantine or sequestration at El Wesch ought, if fairly carried out, to prevent the extension beyond the Hedjaz, and prove an effectual barrier to its advance to Europe. Failing these measures of prevention, the preservation of Europe must depend upon the general means of hygiene, purification, and restriction, pointed out as applicable in all countries.

"I have not been able, in the limits of this paper, to enter into all the details of the discussion, reports, and measures proposed by the International Sanitary Conference; but I have endeavored to show you the verdict which it has given on the main point before it. I will, in conclusion, observe that the advice of the Conference is not to trust to sanitary measures alone, or to restrictive measures alone, but to rely on the union of these with measures of disinfection. It is probable that neither hygiene nor restriction of intercourse will be so perfect in its execution as to suffice singly to combat the disease; but in the combination of both, we may hope that the shortcomings of the one may be remedied by the workings of the other."

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THE
HALF-YEARLY ABSTRACT
OF THE
MEDICAL SCIENCES:

BEING

AN ANALYTICAL AND CRITICAL DIGEST OF THE PRINCIPAL BRITISH
AND CONTINENTAL MEDICAL WORKS PUBLISHED IN THE
PRECEDING SIX MONTHS.

Apparatu nobis opus est, et rebus exquisitis undique et collectis, arcessitis, comportatis.
CICERO.

VOL. XLV.

JANUARY—JUNE, 1867.



PHILADELPHIA:
HENRY C. LEA.
1867.

PHILADELPHIA :
COLLINS, PRINTER, 706 JAYNE STREET.

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HALF-YEARLY ABSTRACT

OF

THE MEDICAL SCIENCES,

ETC.

PART I.

PRACTICAL MEDICINE, PATHOLOGY, AND THERAPEUTICS.

SECT. I.—GENERAL QUESTIONS IN MEDICINE.

ART. 1.—*An Hyperæsthetic Form of Chronic Alcoholism.*

By Prof. LEUDET, of Rouen.

(*Archives Générales de Médecine*, Janvier, 1867.)

Prof. LEUDET, in a memoir on chronic alcoholism, states the following facts gathered by him in the course of his studies upon this subject:—

1. That individuals who drink alcohol to excess present, at a period of that morbid evolution which is known by the name of chronic alcoholism, a collection of phenomena called *the hyperæsthetic form*.

2. This hyperæsthetic affection is, from Leudet's experience at Rouen, more common than is generally imagined.

3. It consists in pain varying in intensity, generally deep-seated, now and then superficial; it presents itself at times in the form of a remarkable exaltation of the sensibility of the whole trunk and of the limbs. There frequently exists at the same time pain along the spinal column, analgesia or anæsthesia in certain parts of the skin, impaired motility, weakening of the muscular power, particularly in the lower limbs, cramp, and a marked exaltation of reflex movements.

4. This hyperæsthetic form of chronic alcoholism is sometimes followed by paraplegia.

5. The affections just enumerated depend upon disease of the spinal cord.

6. They are liable to present remarkable variation; when they cease they very frequently leave behind a state of infirmity more or less marked, and which consists in an impairment of the motility of the lower limbs.

ART. 2.—*The Diarrhœa of Enteric or Typhoid Fever.*

By GEORGE JOHNSON, M.D., F.R.C.P., Physician to King's College Hospital; Professor of Medicine in King's College, &c.

(*British Medical Journal*, March 16, 1867.)

The following interesting and instructive results of two different modes of treating the diarrhœa of typhoid fever are given by Dr. Johnson in a clinical lecture delivered at King's College Hospital:—

"For a number of years," he said, "it was the general practice here—and, in particular, it was the practice pursued by Dr. Todd—to treat this form of diar-

rhœa by repeated doses of opiates and powerful astringents. When the stools were frequent, it was a common practice to give an enema of starch, with laudanum, twice, thrice, and even oftener, in the course of the day; each enema containing, perhaps, twenty minims of laudanum. Other astringents, both vegetable and mineral—catechu, logwood, lead, and copper, either with or without opium—were often given by the mouth. This practice was certainly attended with very unsatisfactory results. The diarrhœa in those days was commonly profuse and obstinate; the bowels became painfully distended with a mixture of air and liquid; and then, to get rid of the distressing tympanitis, the patient often had to endure the depressing torture of turpentine stupes.

"Now all this has been much changed during the last few years. There has been no change in the type of typhoid fever; the disease is, in every respect, the same as in former years. There is the same intestinal ulceration; but the intestinal symptoms are far less troublesome. There is much less of obstinate diarrhœa, much less of distressing tympanitis; and this amelioration of symptoms is coincident with a complete change of practice. I have described the former mode of treatment. Our practice now is, as a rule, to leave the diarrhœa alone, and rarely to give opiates or other astringents to check it. You will understand, of course, that I am speaking only of the practice in my own wards. It is a most unquestionable fact that, since the discontinuance of the opiate and astringent treatment, the diarrhœa and the other intestinal symptoms have been far less troublesome to the attendants, and far less distressing to the patients.

"And it appears to me that the explanation of these different results is not difficult. In most cases of typhoid fever there must be more or less of diarrhœa, for there is ulceration of the bowel, and, as a consequence of this, morbid secretions are poured out, which irritate the bowel and have to be expelled. This is obvious, without entering upon any theoretical considerations. If now, while this morbid process is going on in the intestines, repeated opiates are given, either by the mouth or by the rectum, the effect is certainly not to stop or to check the ulcerative process in the bowel, nor to prevent the pouring out of morbid secretions from the ulcerated surfaces; but to lessen the sensibility and the contractility of the bowel, and so to retain the morbid secretions until they decompose, give off offensive gases, and thus become a fresh source of irritation and distress. I attribute the unfavorable results of this practice mainly to the effect of the opiates in preventing or retarding the expulsion of the offensive secretions from the bowel.

"Not long since, some of you had the opportunity of seeing the effect of discontinuing the astringent treatment, in the case of a young woman who was admitted at about the end of the second week of typhoid fever. She had been under the care of a friend and former pupil of my own, and he told us that she had been treated by logwood and laudanum every six hours, yet, in spite of this, the diarrhœa had been profuse and frequent up to the very time of her admission into Twining Ward. I directed her to be put upon the usual fever diet, and to have a dose of colored water three times a day. The troublesome diarrhœa ceased immediately; the bowels acted only once or twice a day. She made a good recovery; and my friend frankly admitted that the 'let alone' plan had been much more successful than his opiate and astringent treatment.

"In our endeavor to explain the undoubted fact, that the intestinal symptoms of typhoid fever are now much less troublesome than in past times, it is right to mention that in some other particulars our treatment has been modified. We now give much less medicine of every kind than we formerly did; and, in particular, we avoid the risk of irritating the bowels by repeated doses of mineral acids. We give alcoholic stimulants more sparingly and with more discrimination. As a rule, we give none during the early stages of the fever; when I am convinced that their indiscreet employment often increases febrile excitement, cerebral oppression, and gastro-intestinal irritation. In short, our chief reliance now in the treatment of this fever is upon rest in bed, with good nursing, judicious feeding, and stimulants when necessary. Our fever patients are fed mainly upon milk, beef-tea, eggs, and arrow-root.

"If you refer to Trousseau's *Clinique Médicale* (tome i. p. 258), you will find that his practice, when the stools of typhoid fever are frequent and abundant,

is to give saline purgatives—either sulphate of soda or a Seidlitz powder. This treatment he thinks especially indicated, when the diarrhœa is associated with much flatulent distension of the bowels, and in such cases he repeats the dose several times. If, after this, the diarrhœa continue, he gives what he calls absorbent powders—nitrate of bismuth in combination with chalk, and in some cases small doses of nitrate of silver—but he makes no mention of opium as a remedy in this class of cases.

“When the intestines become much distended by a mixture of air and liquid, the relief which follows evacuation of the bowels is often great and permanent. This may sometimes be effected by a laxative enema, but in most cases more surely by a table-spoonful of castor oil combined with a few drops of laudanum in some aromatic water. In such cases, if we can get rid of irritating secretions by a mild evacuant, we are acting on the principle which should continually guide us in the treatment of typhoid fever—namely, to ensure as much as possible of rest for the diseased intestine. The intestines in these cases may be irritated by uncalled-for drugs, by injudicious feeding, by the untimely or excessive administration of alcoholic stimulants, by the accumulation of morbid secretions within the bowels, by muscular exertion on the part of the patient, or by rough pressure over the abdomen on the part of the practitioner. All these known sources of irritation and of injury ought, therefore, to be most carefully avoided.

“In conclusion, let me say emphatically that, when peritonitis is threatened or actually present, whether the result of perforation of the bowel or of the ulcerative process extending deeply into the tissues, our main reliance is upon absolute rest, light hot fomentations over the abdomen, and opium in full and frequent doses. I have seen cases apparently the most desperate recover under this plan of treatment; one case in particular, that of a girl, eleven years of age, in whom all the symptoms of perforation of the bowel were present. In such a case, when recovery takes place, however sudden and severe may have been the onset of the peritoneal symptoms, it must of course remain doubtful whether perforation of the bowel had actually occurred.”

We here append a note which appeared in the *Medical Times and Gazette* of March 23d:—

The Diarrhœa of Enteric Fever.—The last number of our contemporary, the *British Medical Journal*, furnishes a forcible illustration of the fact that doctors disagree. Dr. George Johnson, in his “Clinical Remarks on the Diarrhœa of Enteric or Typhoid Fever,” reviews the experience obtained by his quarter of a century’s connection with King’s College Hospital, and compares the effect of two different modes of treating the diarrhœa of typhoid fever. Without entering any further into his contribution, we may say that he finds his results of the treatment of typhoid fever much better now than they were in the earlier part of his experience: “It is a most unquestionable fact that, since the discontinuance of the opiate and astringent treatment, the diarrhœa and the other intestinal symptoms have been far less troublesome to the attendants, and far less distressing to the patients.” He condemns the use of vegetable and mineral astringents, avoids the risk of irritating the bowels by repeated doses of mineral acids, gives alcoholic stimulants more sparingly and with more discrimination than formerly, and thinks that, so far from seeking to restrain the diarrhœa by astringents, we ought occasionally to exhibit a mild laxative to get rid of irritating secretions from the bowels. Dr. Murchison, *per contra*, in some clinical remarks on a case of typhoid fever, after saying that there is no proof that the retention in the body of typhoid stools is deleterious to the individual, avers his belief that we have positive proofs that diarrhœa does harm in typhoid fever. From the considerations he lays down, Dr. Murchison concludes that the best line of practice consists in checking the diarrhœa of this fever as much as possible, and he recommends the very remedies which Dr. Johnson disapproves! *Telle est la vie!*

ART. 3.—A Case in which Typhus and Pythogenic Fever coexisted, complicated with Pleuro-Pneumonia.

By MONTGOMERY ALBERT WARD, M.B., M.Ch.

(*The Medical Press and Circular*, February 13, 1867.)

THE question as to the identity or non-identity of the virus in typhus and pythogenic fevers has, at different times since 1840, arrested the attention of all thinking and practical physicians, for previous to this period they were considered as one and the same fever, or different stages of the same fever. Many able arguments have been advanced by the supporters of each side of the question, and even at the present time it remains, to a certain extent, a *questio vexata*.

Dr. Kennedy, of Dublin, has been for some time the most ardent supporter of the identity of the two fever poisons, and has brought forward many arguments to prove his views, which have been admirably answered by Dr. Hudson, in the appendix to his lectures on the study of fever, lately published.

The importance of the subject has induced Dr. Ward to publish the particulars of the following case, which occurred in his private practice last year, and which, he thinks, bears not a little on the point at issue:—

May 12th, 1866, I was summoned at twelve o'clock P. M. to visit Mr. —, who I was informed was very ill. I immediately went, and subjoined is the history of the case:—

I was informed by his family that Mr. — (who was previously a fine, strong, healthy young man, aged twenty-five) had been in the habit of drinking for a year or so; that for the last six weeks his appetite had been gradually failing, and his family remarked him losing flesh, and much depressed in spirits. This day week—viz., May 5th—he was returning home intoxicated late at night, when he fell into a ditch of dirty water, near which a foul sewer emptied itself. Here he fell asleep, and lay all night with his feet and legs partially submerged, and his body on the side of the bank. In this condition he was found by some workmen going to their work in the morning, who aroused him up and brought him home, when he was put to bed. He remained in bed during Sunday, the 6th, Monday, the 7th, and on Tuesday, the 8th, he dressed and got up, but did not appear to be at all well to his friends, for he complained of being very cold, and sat over the fire all day. From this day until I saw him, a period of four days, he kept his bed, having got, as he thought, a bilious attack, for which he took some purgative medicines, which induced a slight diarrhoea. This morning he was attacked with a severe diarrhoea and a pain over the abdomen; he also complained of a slight pain beneath the left nipple. For the diarrhoea his family gave him some brandy and laudanum. Towards evening the diarrhoea increased and intense vomiting set in, when I was sent for. When I came I found him in the bed, propped up by pillows in a semi-sitting posture. During the last few hours he had passed some very foetid liquid stools, with some blood in them. The abdomen was very painful and tympanitic on percussion, and there was evident gurgillement over the right iliac region. On placing the stethoscope under the left nipple, where he complained of a severe lancinating pain, I heard a well-marked friction sound. His skin was hot and burning; pulse 120; tongue covered with a white creamy fur, and red at the edges; countenance dull and anxious; respirations hurried and increased.

As the vomiting, pain in the abdomen, and diarrhoea were the most urgent symptoms, I ordered him—

R. Plumbi acetatis, gr. xij.

Pulveris opii, gr. iss.

Confect. rosæ, q s.

M. et divide in pilulas sex capiat unam secundis horis.

R. Sodæ bicarb. ℥j.

Acidi hydrocyanici dil. ℥viij.

Aquæ menthæ viridis, ℥viij.

Misce. Ft. mistura cujus capiat unciam tertiis horis.

A large linseed-meal poultice to be applied over the abdomen, and another over the left side of the thorax.

May 13th.—Diarrhoea greatly moderated; vomiting still continuing, ordered ice to be sucked throughout the day, and the mixture of yesterday to be continued.

14th.—The bowels were only moved once last night; vomiting entirely ceased; no pain in the abdomen; he complains, however, of the pain in the left side very much. His breathing was greatly oppressed, and there was a short cough. On examination I found that there was effusion into the left pleural sac, and for the first time to-day discovered a few rose-colored spots over the abdomen. Ordered beef-tea and two glasses of port-wine in divided portions; also a mustard poultice to be applied over the left side of the thorax. Seeing that this was a serious case, I asked for a consultation, which was granted.

15th.—I saw him in consultation this day with my friend Dr. Forrest, who made a most minute and searching examination. Since last night the effusion into the left pleural sac had greatly increased, and the rose-colored spots on the abdomen had visibly extended. Dr. Forrest and I pronounced it to be a case of typhoid fever, complicated with pleuro-pneumonia. Ordered:—

R. Calomel, gr. iv.
Pulveris opii, gr. iij.
Sacch. lactis, ℥j.

M. et divide in chartulas xii., capiat unam tertiis horis.

Emplastrum cantharidis 10 inches by 6, over the left side of the thorax. Beef-tea and four ounces of wine.

16th.—The typhoid spots were well-developed to-day, breathing more tranquil, effusion disappearing; continues very weak. Former treatment continued, with the addition of a large blister to be applied to the posterior part of the left side of the thorax. Wine increased to eight ounces.

17th.—Effusion has nearly disappeared; pain in the side continuing; cough very troublesome, expectorating a viscid sputa tinged with blood; very weak. Ordered:—

R. Ammoniae carbonatis, gr. xxiv.
Tinct. scillae, ℥ij.
Syrupi aurantii, ℥ss.
Infusi senegae, ℥viiij.

M. Ft. mistura capiat unciam quartis horis.

Beef-tea and wine to be continued.

18th.—Slightly delirious last night; inclined to sleep very much, and very hard to be aroused; complains of no pain in the side; cough much better; tongue very dry, brown, and covered with sordes. Some maculae appear scattered over the body, interspersed with the typhoid rose-colored spots.

19th.—Profusely maculated; wandering all night, but when aroused quite sensible. His family wished to have the opinion of Dr. Ledwich, to which I gladly consented.

20th.—I saw him to-day in consultation with my friend Dr. Ledwich, who at first pronounced it to be a well-marked case of typhus fever, until I pointed out to him some of the typhoid spots which still remained interspersed through the typhus rash. It would be tedious to your readers if I detailed the daily symptoms and treatment of this case. Suffice it to say that, with the able assistance of my friend Dr. Ledwich, who continued in attendance along with me, the poor fellow appeared to be getting on very well, and we thought that he would have pulled through, when, on the morning of the 25th, a critical perspiration set in, and he succumbed the same evening.

The following are, Dr. Ward thinks, the points of interest in this case:—

First. The coexistence of the pythogenic and typhus virus.

Second. The rarity of the complication of pleuro-pneumonia.

Drs. Murchison, Hudson, Anderson, Todd, and others, have in a few cases observed the coexistence of these morbid poisons, and have in Dr. Ward's mind clearly proved their non-identity. That they did coexist in the above case, he thinks he has clearly proved.

This young man was employed in an extensive wine-merchant's office in this city, and was engaged during the greater part of the day in the wine-vaults, which were underground, and very badly ventilated. Here he was exposed to the temptation of constantly tipping, to which he yielded, and which subsequently undermined his constitution, thereby rendering him more susceptible of

imbibing a virulent poison. Dr. Ward believes that from constantly breathing the foul and vitiated air in these vaults he contracted the typhus poison, and that he contracted the pythogenic poison on the night of May 5th, when he lay all night in a ditch, near which a foul sewer opened. This is, he thinks, what probably took place—at least, it is the only way in which he is able to explain it, after a close investigation into the history of the case.

ART. 4.—*Trichina Disease.*

(*The Lancet*, January 19, 1867.)

The English public has imbibed a thorough dread of the disease which, known as "trichiniasis," has appeared in an epidemic form, and proved so markedly fatal in different parts of the Continent, especially of late. Recent observations would seem to show that we as a nation enjoy comparative immunity from harm in this respect, and are exposed to danger chiefly by eating food prepared abroad. The facts upon which this opinion is based are given by one of the most trustworthy inquirers of the day.

At a meeting of the Linnean Society, held on Thursday, the 17th inst., Dr. Cobbold, F.R.S., gave the results of a series of experiments with *Trichina spiralis*. He had succeeded in rearing muscle-fleshworms in several dogs and cats, and also in the pig, guinea-pig, and hedgehog. He had likewise obtained the so-called intestinal form, or sexually mature trichina. All the experiments made on birds produced negative results. Birds were not a suitable territory, it was said, for muscle trichinæ. In a practical point of view, the author of the paper remarked that there was little danger to the public health from trichiniasis in England. No case in the human body had been diagnosed during life in this country. English swine were remarkably, if not entirely, free from the so-called trichina disease. Ordinary precautions would suffice. He suggested caution as to the use of foreign meat, especially prepared meat, such as German sausages. He deprecated further experiments with trichina spiralis, the whole phenomena of the development of this species being now thoroughly understood by helminthologists.

ART. 5.—*On the Temperature of Cholera Patients.*

By Dr. GUETERBOCK.

(*Virchow's Archiv*, 1867; *Gazette Hebdomadaire*, No. 11, 1867.)

Although many authors have sought to establish the changes of temperature which are presented in cholera, it is astonishing to see what great variations exist between the different results that have been given. These differences are owing partly to some authors having observed only a small number of cases, and partly to the method itself. As Dr. Gueterbock remarks, cholera is one of the diseases in which great difficulties are presented to thermometrical observations; the state of the patient and many other conditions complicate the examination, particularly when the observer wishes to take the temperatures of the vagina and rectum. Dr. Gueterbock has studied the matter in about 90 patients, and he has always taken the temperature in the rectum, or vagina, as well as in the axilla. He has given the results in many well-compiled tables, in which the different facts are classified in the following manner:—the first table contains 45 cases of cholera with a fatal termination in the period of asphyxia; the second contains 10 cases of cholera followed by recovery, and also slight cases; another table is devoted to cases of cholera followed by different complications; the last one gives the comparative temperatures as registered before death and a short time after.

The following is a brief résumé of the principal results obtained by the author.

At first he shows that great confidence cannot be placed in the state of the temperature when taken in the axilla alone. From the examination of the comparative temperature of the axilla, rectum, and vagina, it is shown that the variations may oscillate between $0^{\circ}9$ C. and $3^{\circ}7$ C.; and also that no constant relation exists between them. For instance, in 31 cases of *cholera asphixique*, the temperature in the axilla was in 21 cases below 37° C., whilst out of 54 cases of the same disease in which the temperature was taken in the vagina or rectum, in 12 cases only was it below the normal standard. It must be concluded then that the temperature taken in the vagina or in the rectum is the surest and safest index of the general temperature of the body.

From an examination of 45 patients, M. Gueterbock has concluded that in the algide stage, whilst the peripheral parts of the body, as the head and limbs, are remarkably cold, the temperature when taken in the natural cavities is, in the majority of cases, increased; more rarely it remains normal; and more rarely still, it is slightly diminished, without any explanation of these differences being given by the manner of the termination of the disease, or by causes recognized before or after death.

The temperature was diminished in 6 cases only out of 45, and in these from $0^{\circ}5$ to 1° ; in one case the temperature was raised as high as 42° C. In algide cases the temperature was generally increased at the approach, and even at the time of death, but it did not appear to rise after death, and sometimes there was no increase at the last moment. These results, so opposed to the ideas generally accepted, the author has deduced from observations on 12 patients made a short time before death, during the agony, and within the hour that followed.

If the period of reaction be uncomplicated, there is generally no increase of heat, but there is frequently a slight lowering of the internal temperature corresponding to an elevation in the extremities. But variations of temperature are frequently observed if complications supervene; inflammatory attacks, such as exanthema and pneumonia, cause an elevation of temperature, but in no complication is this elevation so marked and so rapid as in that of parotitis; in one case of this affection the temperature of the axilla was $39^{\circ}8$ C., and in a fatal case of parotitis complicated with erysipelas, it was as high as $41^{\circ}2$ C. When during convalescence a rapid or considerable elevation was observed, a careful examination of the patient nearly always discovered the pathological cause.

ART. 6.—*The Prevention of Cholera.*

(*The Lancet*, February 16, 1867.)

Amongst the many papers lately published on this point, there is one which really deserves notice. It is by Herr I. Günther, and was published in Leipzig under the title of "Die indische Cholera in Sachsen." It describes the progress of the cholera in Saxony, and shows how the house of correction in Zwickau was preserved from invasion of the epidemic, while in the immediate neighborhood there was no less than 250 cases of cholera, of which 119 were fatal. There were as many as 1286 prisoners in the house of detention, yet there was not a single case of cholera within its walls. This result Herr Günther attributes to the following hygienic measures, which were rigidly carried out:—

1. Complete and daily disinfection of all the waterclosets, and immediate removal of all excrementitious matters, after they had been disinfected thoroughly with sulphate of iron, carbolic acid, &c., and covered with powdered mineral charcoal.
2. Suitable diet given to the prisoners.
3. Clothing the prisoners in such a manner as to prevent all exposure to cold.
4. Constant examination of the general condition of health of the prisoners.
5. Exerting a moral influence over the prisoners in order to avoid unnecessary dread of the epidemic.

The above instance is certainly a remarkable one, and argues strongly in favor of the "contagious theory" of cholera.

ART. 7.—*Cholera.*

By ALEX. LANE, M. D., Surgeon Royal Navy.

(Medical Press and Circular, March 20, 1867.)

In some remarks on African, West Indian, and other fevers and diseases, Dr. Lane says, in speaking of cholera, that whether it is called pure Asiatic, English, Irish, or French, the producing poison is essentially the same, differing only in degree of violence; for that poison which produces cholera will produce no other disease whatever, therefore the cholera poison is, like all other poisons, *sui generis*, and acts almost specifically upon the organs of nutrition, and is also very peculiar in its action. He does not know a disease which is not produced by some specific poison. Where the circulation is impeded there will be disease, but in general cases you expect a general issue; yet in this case, though general, it appears that it will attack the stomach and rectum, and a portion, or perhaps the whole, of the colon, and leave the intermediate portion alone. The modes of treatment are so various, as a specific has not yet been found out, that it is really difficult to make a selection. The cases which came under his observation in India were about the usual type; however, they yielded to opium and brandy, with external stimulants and rubefacients. The physicians he met with in India were certainly loud in their praises of opium, but, as they said—and he perfectly coincided with them—that opium, to be useful, must be given in large and powerful doses, and also in a liquid form, in consequence of its immediate action upon the coats of the stomach; and should a dose be rejected, there should be no hesitation about the second or third repetition—in fact, repeated as often as necessary.

ART. 8.—*On the Urine in Cholera.*

By A. BORDIER.

(Archives Générales de Médecine, Février, 1867.)

M. Bordier, in a memoir detailing his experience of the cholera epidemic of 1866, when he served under Dr. Gubler, at the Hôpital Beaujon, refers to some interesting facts concerning the changes in the urine before and during the period of reaction.

The urine before the period of reaction.—As soon as the urine is passed, it is found in all cholera patients to be albuminous. M. Gubler considers this albuminuria to result from a parenchymatous nephritis, analogous to that occurring in scarlatina. The albumen is not always apparent under the influence of heat, a phenomenon which takes place also when the intestinal evacuations are examined, and is attributed to a change in the molecular state of the albumen. Besides the albuminous cloud formed by the addition of nitric acid, there appears also, in severe cases, a brown disk, likened very justly by Mr. Gubler to the color of mahogany; this tint passes successively through all the intermediate shades to that of blue, which it always reaches, and then the bottom of the glass is covered by a layer of an indigo-blue tint, soluble in ether, and almost entirely composed of pure carbon.

This blue color in the urine is not peculiar to cholera; it is always produced when hæmaturia is incomplete, and generally in severe fevers, when oxidation is imperfectly accomplished.

The urine during the period of reaction.—The urine which, during the algide period, presented signs of imperfect oxidation, in the stage of reaction contains considerable quantities of urea and uric acid, substances rich in oxygen. From an analysis of Dr. Chalvet, it is proved that the quantity of urea is more than double that contained in normal urine. Albumen is still pre-

sent, though only for a short time, and in small quantity; but a very curious phenomenon soon presents itself, the presence of sugar in the urine. The thirst from which in preceding stages the patient had suffered again appears, and the body is covered with boils. Glycosuria is a constant phenomenon in the stage of reaction, and is present as frequently as albuminuria is in the preceding stage. M. Bordier believes that this change in the urine is due to that paralysis of the vaso-motor nerves which characterize this period—a paralysis which acts upon the liver as well as upon other viscera, and causes there passive dilatation of the bloodvessels, and consequently an increased flow of blood, whence results the increased activity of its functions. It is to paralysis of the vessels of the liver that M. Scheff attributes ordinary glycosuria. In all instances of this change, whatever be its cause, it is curious to witness, amongst all the signs of an increased combustion of the material of the body, the presence of so much sugar, when, as always occurs in ordinary glycosuria, it is generally diminished in quantity whenever a febrile attack supervenes.

ART. 9.—*Treatment of Cholera.*

By AUSTIN FLINT, M. D., Fellow of the New York Academy of Medicine.

(*Principles and Practice of Medicine*, 2d edit.)

Dr. Flint states in his very valuable and elaborate treatise on the principles and practice of medicine, that "the treatment of epidemic cholera is to be considered as applicable to the different stages—viz., before collapse, during the collapsed stage, and after reaction. Prior to collapse, the paramount object is the arrest of the intestinal effusion. This effusion is the first appreciable link in the chain of morbid sequences, and, if promptly arrested before it has proceeded so far as to affect seriously the blood and circulation, the patient is usually safe. The remedy on which most dependence is to be placed in effecting this object is opium. Some form of opiate is to be given promptly in doses sufficient to effect the object. The form of opiate is to be chosen with reference to promptness of action, and the probability of its being retained. Opium, in substance, is unsuitable, from the comparative slowness with which it is absorbed. Laudanum, the acetated tincture, or an aqueous preparation, are to be preferred. But the article which I have been led to regard as the most eligible is a salt of morphia, administered by placing it dry upon the tongue. In the endeavor to effect the object of treatment in this stage, moments are precious, for there is always danger that, if the object be not promptly effected, the patient will fall into a collapsed state. The opiate should, therefore, be given at once in a full dose. A grain of a salt of morphia is rarely, if ever, too large a dose for an adult. A physician should, if possible, remain with the patient. If the first dose be quickly rejected, a second should be instantly given. The doses are to be repeated at intervals of from half to three-fourths of an hour, until the dejections and borborygmi cease. If, owing to the occurrence of vomiting, the administration by the mouth be ineffectual, it should be given by the rectum; and in cases in which the symptoms are urgent, both modes of administration should be resorted to. The system, even in this stage of the disease, is not readily affected by opiates thus given. In view of the importance of the object, if it be necessary in order to effect it, some risk of inducing narcotism is justifiable; but if the administration be in the hands of the physician, and the effects of the doses watched with care, danger from this source may generally be avoided. The practical point is to employ the remedy freely and promptly so as to effect the object, bearing in mind the fact that the delay of half-an-hour or an hour is often fatal. Relying upon the opiate it is best not to add other remedies, lest by increasing the bulk of the doses they will be more likely to be rejected. A full dose is preferable to small doses frequently repeated, because the effect within a short space of time is greater, and the

remedy is more likely to be retained. Aside from the rejection of the remedy, vomiting is, if possible, to be prevented in view of its perturbatory effects. The patient, in this stage, should be restricted to a very small quantity of water, or spirit and water, given at short intervals, or to small pieces of ice. Perfect quietude is important. He should not be permitted to get up to go to stool, and he should be urged to resist, as much as possible, the desire to evacuate the bowels. Frictions, the warm bath, sinapisms, &c., in this stage, are of doubtful expediency.

I have repeatedly succeeded in arresting the disease by this plan of treatment, and when arrested before proceeding to the stage of collapse, the recovery is usually speedy. Regulated diet, rest, with perhaps a tonic remedy, suffice for the cure. The bowels should be allowed to remain constipated for several days, and then, if movements do not spontaneously occur, simple enemas will probably be sufficient; if not, a little rhubarb or some other mild laxative may be given. I believe no other plan of treatment promises more than this, but it is not to be expected that it will always prove successful. It will fail, or rather it is not available, when, owing to the persistent vomiting and frequent purging, the remedy is not retained sufficiently long to exert its effect; and it is not available when, owing to the great rapidity of the transudation, the state of collapse occurs so quickly that there is not time enough to obtain a remedial effect. These difficulties are equally in the way of success from any remedies.

In the stage of collapse, the plan of treatment indicated prior to this stage may prove not only ineffectual, but hurtful. It is still an object to arrest intestinal transudation if it continue, but to employ opiates very largely for this object, may not be judicious with reference to the recuperative efforts of the system. The symptoms in this stage are due, mainly, to the damage which the blood has sustained in the loss of its constituents from the transudation which has already taken place. Opiates should be given, and, owing to the remarkable degree of tolerance under these circumstances, they may be given in considerable doses, but much care should be observed not to induce narcotism. Astringent remedies, if the stomach will retain them, may be added, such as tannic acid, the acetate of lead, bismuth, &c. If, however, these or other remedies provoke vomiting, they will be likely to do more harm than good. Remedies to allay vomiting may be tried—viz., the hydrocyanic acid, creasote, and chloroform.

In a large proportion of cases, after collapse has taken place, little can be done with much hope of success. Even if the vomiting and purging cease, recovery may not follow. The blood may have been damaged irremediably. Under these circumstances it is plain that active treatment can effect nothing. Recovery, however, in a certain proportion of cases, takes place, and under a great variety of treatment. The object of treatment in the collapsed state, aside from the arrest of vomiting and purging, is to excite and aid the efforts of nature in restoring the circulation, together with the functions dependent thereon. The measures to be employed for this object are external heat, stimulating applications to the surface, diffusible and other stimulants, and alimentation.

The application of heat may be made by means of warm blankets or bottles of hot water placed near the body. The more active modes of applying heat are of doubtful propriety. I have never seen benefit from the warm bath, or the application of steam or hot-air. It is not desirable to excite perspiration, and, if perspiration occur, it should be wiped away with warm dry cloths. Violent friction does more harm than good. The surface may be gently stimulated with sinapisms, or the tincture of capsicum. Diffusible stimulants, in the form of spirits and water, should be given as freely as the stomach will bear, always recollecting the risk and the evils of inducing vomiting. It will be most apt to be retained if given in small quantities at a time, and often repeated. If vomiting be provoked by either drinks, remedies, or aliment, more or less injury is done. The ethers, stimulants such as capsicum, the essential oils, cardamom, ginger, &c., are appropriate if they be grateful to the stomach and retained. Concentrated nourishment essence of meat, chicken-broth, and milk—is to be given in small quantities at a time, provided the stomach will retain it. It is

doubtless desirable to introduce liquid into the system as far as possible. The only objection to the free ingestion of water is the risk of provoking vomiting. Small lumps of ice should be freely allowed. If the patient emerge from the collapsed state, the indications are to support the system by the moderate use of stimulants, and by alimentation; to restore the function of the kidneys by diuretic remedies and mucilaginous drinks, bearing in mind that uræmia is among the dangers of this stage; to restrain diarrhoea, if it occur, by anodynes and astringents; to strengthen by tonics, and to palliate, by appropriate remedies, the various symptoms which may arise.

In the months of September and October, 1866, when epidemic cholera prevailed to some extent in the city of New York, injections of brandy and a strong tea-infusion were used considerably with apparent efficacy in arresting the evacuations and preventing collapse. The proportions used were half an ounce of brandy and two ounces of the tea-infusion; the injections being repeated every half-hour, every hour, or after longer intervals, according to circumstances.

ART. 10.—*Intermittent Fever.*

By AUSTIN FLINT, M.D., Professor of the Principles and Practice of Medicine in the Bellevue Hospital Medical College, and in the Long Island Hospital.

(*Principles and Practice of Medicine*, 2d edit.)

Dr. Flint, in speaking of the treatment of intermittent fever, in his treatise on medicine, says that the hypodermic injection of a solution of quinia may be resorted to in cases of ordinary intermittents, when the remedy is not retained either by the stomach or rectum. This mode of administration, moreover, has the advantage of economy as regards the quantity of the remedy required; late experimental observation appearing to show that the effect is three times greater when thus administered than when taken into the stomach. The effect is also more quickly induced. It is, however, in cases of pernicious intermittent and remittent fever that the hypodermic injection of a solution of quinia promises to prove of special value, by reason of the certainty and promptness with which cinchonism may be induced by this mode of administration. After the paroxysms are interrupted, the remedy should be continued in small doses, from two to four grains daily, for a considerable period. If anæmia exist, a chalybeate should be conjoined—the citrate of iron and quinia is an eligible preparation. Relapses are prevented by this after-treatment. The diet should be nutritious, and a little wine with meals is advisable. Cathartics are to be avoided; given before the interruption of the paroxysms, they conflict with that object. If there be constipation, it should be remedied by mild laxatives or enemata.

ART. 11.—*Infantile Rheumatism and Chorea.*

By Dr. HENRI ROGER.

(*Archives Générales de Médecine*, Janvier, 1867.)

Dr. Roger concludes an elaborate memoir on Chorea, Rheumatism, and Diseases of the Heart, with the following propositions:—

1. *Infantile rheumatism.*—Rheumatism is, contrary to the opinion generally accepted, a frequent affection in young patients. It does not attack infants just born, or at the breast. Its occurrence is exceptional before the third year, and it is seldom observed before the fifth; but during the period of the second dentition, it is met with almost as frequently as in adult age. In infancy, as in other periods of life, cold, combined with damp, is the most active cause of

acute articular rheumatism. Scarlatinal rheumatism is nearly always brought about by cold; its special and habitual characters are more localized, and are limited, in most cases, to the neck and hands; they are less intense, less persistent, and the visceral complications are less frequent; the occurrence of a rheumatoid-scarlatinal endocarditis must, however, be admitted.

Acute torticollis is an affection peculiar to children, as lumbago is to adults.

Vertebral rheumatism is sometimes observed, and may in some cases simulate spinal meningitis.

Severe attacks of acute general rheumatism seem to occur less frequently in children than in adults: the sub-acute form is more common; but the complications are quite as frequent, and often more serious, because of the smaller amount of resistance in young patients to very active, complex, or prolonged morbid influences.

A slight attack of rheumatism, in which one or two joints are but lightly affected with simple rheumatic pains, may be complicated with endo-pericarditis, an affection always serious, and at times rapidly fatal.

A very mild rheumatism may also be the starting-point of manifold and very serious affections—as, for instance, Roger gives a case where a slight pain in the foot was followed by pulmonary congestion, endocarditis, aortitis, and chorea, with mental disorders.

The cardiac complications are, as with adults, the most frequent; they are so to such an extent that it is justifiable to assert that *there is a fixed law of coincidence of rheumatism with affections of the heart*: if the rheumatic child escape this visceral complication at the first or second attack, it will almost certainly be affected at the third or fourth, or even later. In some cases the carditis commences the series of rheumatic symptoms, and originates the diathesis. When rheumatism is complicated with peri- or endocarditis, pleurisy very frequently supervenes on the left side, and sometimes on both left and right.

Cerebral rheumatism is less frequent and less severe in infants than in adults. From Roger's observation, it is never present except in cases where rheumatism and chorea exist together.

In forming a differential diagnosis of articular rheumatism, the physician must take into consideration growing pains, acute rachitis, and abscesses in the neighborhood of the epiphyses. The prognosis must be derived, as at all other ages, from the violence of the rheumatism and of the accompanying fever, as well as from the character of the complications, with this reserve, that the mildest rheumatic attack may be complicated with the most serious events, and end in death.

Rheumatism complicated with chorea.—A complication of rheumatism, and one which may be asserted as peculiar to childhood, is chorea. St. Vitus's dance does, in fact, appear very often in children who have previously been affected with rheumatism, and this coincidence is repeated so frequently, that it may be considered as an expression of a *pathological law*.

Dr. Roger gives proof of the close relations existing between chorea and rheumatism, by detailing 6 cases where chorea came on during the convalescence from and after the cure of rheumatism. Four cases are given where chorea and rheumatism existed together, and others where St. Vitus's dance alternated with rheumatism; one case is particularly mentioned, in which there were 6 attacks of rheumatism, and 5 of chorea.

It is at the period of its decline—that is, when its severity has passed away—that articular rheumatism in young patients has the greatest tendency to be complicated with chorea. This complication is more common in those vague and mild cases where the rheumatic aches are taken for growing pains; it is the mild forms of rheumatism which particularly beget chorea.

There is a kind of antagonism between the violence of the phenomena of the two affections; very acute and general articular rheumatism is, as a rule, complicated from its commencement, or during its course, with cardiac inflammation, and not with chorea; and chorea, when it does supervene, is partial, not very active, and of short duration. On the other hand, it is the milder forms of rheumatism which are generally complicated with the most severe and obstinate chorea. In certain cases where the two affections, both of which are liable to

relapse, alternate or combine, the intensity of the phenomena of each is counter-balanced in a remarkable manner.

The knowledge of the frequency of chorea after infantile rheumatism must modify the prognosis of the latter disease, the rheumatic infant is always threatened directly or remotely with St. Vitus's dance; in the same way a choreic infant is always liable to an early or a distant attack of rheumatism, and again, both of these affections have the same tendency to be complicated with cardiac or pulmonary inflammation.

ART. 12.—*Acute Rheumatism.*

(*Medical Times and Gazette*, March 30, 1867.)

If there be anything unsatisfactory in medicine, surely the treatment of acute rheumatism is one: it is almost as various as there are medical men to make it so, yet, curiously enough, the results are nearly identical in them all. Two patients in St. Mary's well illustrate this point: one, under Dr. Handfield Jones, has been treated by alkalies and other remedies and dieted on slops; the other, under Dr. Sibson, has had absolutely no medicine—not even a *placebo*—and has had nourishing food, with an allowance of beer, but the affected joints have been carefully kept warm with cotton wool, and absolute rest has been insisted on. The result is, that both coming in about the same time, both bad cases, are both now well, neither with any cardiac complication. Dr. Sibson looks upon rheumatism as a disease which will run its course, the same as scarlatina (which, by-the-by, he treats, or rather does not treat, in the same way) or measles, and that it is useless to attempt to cut it short. Alkalies, as impoverishing the blood, he views as likely to retard rather than aid recovery.

ART. 13.—*Blister Treatment of Rheumatism.*

Cases under the care of Dr. PEACOCK.

(*Medical Times and Gazette*, January 19, 1867.)

Dr. Peacock relates the following cases in which the blister treatment proved particularly useful:—

CASE 1.—*Acute Rheumatism; Old Mitral Disease: Great Anæmia: Rapid Relief from Blisters: The Rheumatism cured: The Cardiac Disease remaining as before.*—C. M'C., aged 22, a widow, with one child a year and 9 months old, admitted into Elizabeth's Ward, St. Thomas's Hospital, on August 22d, 1866. When admitted she was laboring under symptoms of rheumatic fever, and was very much prostrated. She stated that her father and mother were both dead, the former having died about sixty from bronchitis, the latter at fifty-four, of bronchitis and dropsy. She had lost one sister after her confinement, who had disease of the heart after rheumatism; and of three others who were still living, one was delicate and had had rheumatic fever. She had never had any brothers. She herself had always been delicate, and had suffered from palpitation of the heart for six years, and six months before her admission she had had an attack of inflammation of the chest. She was of a very fair complexion, with light hair, and very pale and thin. The rheumatic symptoms under which she labored commenced three days before admission. When admitted she had great pain and some swelling in both ankles and the left knee and shoulder. A systolic murmur was heard at the apex of the heart, and there was considerable constitutional disturbance, with much prostration of strength. She was directed to have blisters applied near the affected joints, to take two grains of iodide of potassium and ten of bicarbonate of potash in an ounce of decoction of bark three times daily, and to have four ounces of wine in the day.

Aug. 29th.—She is very much relieved. The skin is cool and moist, the pulse 108 and feeble; tongue clean and moist. There is still some swelling about the ankles, but the tenderness is much less both about those joints and in the right knee and

shoulder. There is a soft systolic murmur audible most intensely and most prolonged at the apex. About the nipple it is preceded by a rougher sound. The blisters all rose well and discharged freely, and their operation was attended by immediate and great relief to the pain.

30th.—The blistered surfaces have quite healed. The ankles still continue slightly enlarged, but the pain and tenderness have entirely disappeared. Pulse 72, quiet. She is very weak and anæmic. The murmur still continues. The systolic sound is immediately preceded by a short but distinct sound of a somewhat harsh character. To discontinue the former medicines, and take quinine and iron, and have the mixed diet with potatoes.

From this time she steadily improved, except that on one occasion she had a violent attack of palpitation, caused by excitement at seeing a child dying in the ward. She was discharged cured of the rheumatic symptoms and much improved in general health, but with the mitral affection as before, on Sept. 20th.

CASE 2.—Acute Rheumatism: Very little Relief from General Treatment continued for Ten Days: Great and immediate Benefit from Blisters: Entire Cure.—C. C., aged twenty, single, in service, admitted into Elizabeth's Ward on Sept. 28th, 1766, laboring under symptoms of rheumatic fever of three days' duration. She had had a cold for about a month before the commencement of the rheumatic symptoms, and did not know any special cause for her seizure. She was first taken with pains in the back, passing to the shoulders and knees, and shortly afterwards became feverish. When admitted she was suffering severely from the rheumatic symptoms, with proportional constitutional disturbance. The catamenia had been absent for nearly two months. She was directed to have the bath, to take two pills of blue pill and rhubarb, and \mathcal{E} of bicarbonate of potash every three hours. The following day she had some pain in the region of the heart, and a mustard poultice was applied, and a dose of calomel and opium given.

On Oct. 4th, twenty minims of vin. colchici were directed to be taken in the carbonate and sulphate of magnesia mixture, and she was ordered to have eight grains of Dover's powder each night.

On Oct. 9th Dr. Peacock, who up to this time had been from home, first saw the case. Up to this time there was little, if any, improvement. Her pulse was quick (120 in the minute), tongue much furred, skin warm, very moist, and the perspiration had a very sour smell; she was suffering extremely from the rheumatic pains, and the right knee, the left ankle and knee, and the two shoulders were swollen and excessively tender, and she lay in a very constrained position, and could not bear to be moved. The heart's sounds were without murmur. She was directed to discontinue the colchicum, but to take the Dover's powder at night, and as the bowels were confined, the aperient medicine, and to have blisters applied above the five affected joints.

12th.—All the blisters rose well and discharged freely; she is very much relieved; tongue still furred, but less so than before; pulse much less quick; skin still moist, but the acid smell is almost entirely gone; the joints are still very tender, but are less swollen, and the pain is somewhat better, except in the left shoulder; she has slept more comfortably last night; the bowels are sufficiently acted upon, and she passes water freely—quantity, two pints in 24 hours; specific gravity 1023; very acid; slight flocculent deposit, partially dissolving on application of heat, and entirely on addition of nitric acid.

15th.—Expresses herself as decidedly better; her tongue is clean, though slightly dry; pulse quiet, 64; skin comfortably warm and moist; she sleeps well at night, and is free from pain; there is still some swelling and tenderness of the left knee and ankle, and of the right shoulder; she speaks with some difficulty, and the throat is red and the tonsils swollen. To have two other blisters applied—one below the left knee, and the other in front of the right shoulder; the mixture to be taken only twice daily.

18th.—The last two blisters rose well, and the pain and tenderness and swelling of the joints have entirely subsided; tongue nearly clean, but somewhat dry; pulse quiet and feeble, 76; bowels sufficiently acted upon. To continue the mixture and take the quinine and iron pills twice daily.

22d.—She was not quite so well, having a recurrence of pain, and two other blisters were applied—one above the left ankle, the other above the corresponding knee.

On the 28th she complained of pain across the chest, for which no cause was detected, and she had also pain in the extremities; she was becoming weaker, and the pulse was increased in progress and irritable. The pills were directed to be taken thrice daily, and she was ordered to have three ounces of wine.

29th.—She is much better, being entirely free from pain, and the joints are not tender, though still somewhat stiff; tongue slightly furred and dryish; pulse feeble and somewhat irregular, 68; the throat is still sore, but the tonsils are less enlarged. To have the pills increased to three daily, and to take four ounces of wine.

From this time she steadily improved, being entirely free from pain, and the joints completely recovering their mobility. She continued, however, to speak somewhat thickly, and the tonsils, more especially the right, were still enlarged. This, however, subsided, and she was discharged cured on Nov. 22d.

ART. 14.—*Remarks on Hæmorrhagic Rheumatism.*

By Dr. PERROUD, of the Hôtel-Dieu, Lyon.

(*Journal de Médecine de Lyon*, Décembre, 1866; *Gazette Hebdomadaire*, No. 5, 1867.)

"Although examples of hæmorrhagic rheumatism or rheumatic purpura have been given by Legroux, Worms, Ferrand, Constantin, Paul, and Blachez, cases of this disease are yet but few. M. Perroud reports three fresh cases, of which the following is a recapitulation:—

"In the first case, a man aged thirty-five, who had been already suffering from several attacks of acute articular rheumatism, was affected with general and sub-acute rheumatic pains in the joints, which persisted for five months. During his convalescence an eruption of small confluent ecchymoses appeared in the lower limbs, and then extended to the trunk and right arm.

"Soon after albumen appeared in the urine, and then anasarca; there was no epistaxis, no tendency to hæmorrhage from the mucous membranes, no adynamia, but simple general debility with discoloration of the skin. The rheumatic pains disappeared in a short time, and the anasarca and petechiæ increased and afterwards disappeared without having had the smallest influence upon the rheumatism itself."

"In the second case, a man aged twenty-two years, who had been generally healthy, although of a weak constitution, was attacked with acute articular rheumatism, which went through the usual progress of this affection, but was complicated with a marked tendency to hæmorrhage. These hæmorrhages presented themselves at the commencement of the disease; they occurred from the pituitary, conjunctival, and buccal mucous membranes; they were presented in the form of extensive ecchymoses under the skin and into some of the joints, as evidenced by the ecchymotic tint apparent over the right elbow and both feet; and by articular swellings; in addition to their great extent, the purpuric spots presented on the face two rare and remarkable phenomena: one, the presence of phlyctenulæ; the other, an escharotic withering of the superficial parts of the skin, followed by separation of the mortified part, and subsequent reparation of the wound; there was also an extensive deep-seated and painful swelling of the right thigh, caused probably by intra-muscular ecchymosis; finally, there was in this case hæmaturia and concomitant anasarca."

"In the third case, the patient was, after a chill, attacked with headache and shivering, and at the same time experienced a feeling of obstruction in the throat, with apparent dysphagia. Four days later, pains came on, which commenced in the knees, and extended to several joints. The presence of acute articular rheumatism was very clear. Towards the eighth day, petechiæ appeared upon the lower limbs, and later still, hæmaturia accompanied by acute lumbar pains. Albumen was found in the urine, and as a consequence of this anasarca supervened, and finally, amaurosis, epileptiform convulsions and coma; the patient, however, got well.

"M. Perroud remarks that these observed cases present common characters by which they can be all brought together into one pathological division; in the three cases, the malady put on at first the form of acute semi-articular rheumatism, had this not been so, there might have been hesitation in deciding between hæmorrhagic rheumatism and simple purpura."

It is interesting to connect these facts with those that were reported by M. Worms in 1860, and by M. Blachez in 1865. Notwithstanding the gravity of the affections, it is evident that though the purpura may be considered a sign of considerable alteration in the blood, the terminations were yet satisfactory. In conclusion, there is to be remarked the analogy existing between the second case reported above, and that observed by M. Worms (*Gazette Hebdomadaire*, No. 30, 1866), in which eschars were described as having been present over the ecchymoses.

ART. 15.—*Gouty Deposits.*

(*Medical Times and Gazette*, March 30, 1867.)

The following case exemplifies a simple method of treating gouty deposits in the small joints which Dr. Broadbent has found effectual at St. Mary's Hospital. This is to wrap the hands in linen or flannel dripping with water, warm or cold, and enclose them in a waterproof bag all night. This very speedily removes inflammatory stiffness, and little by little the concretions of urate of soda soften, frequently disappearing entirely. Dr. Broadbent has, in other cases, applied alkaline solutions, and water acidulated with nitric acid, to one hand, while water alone has been applied to the other, and has come to the conclusion that water is the agent in the process of removal. Urate of soda is soluble in a sufficient quantity of water. When once deposited round the joints it is extra-vascular, and not readily acted on through the blood, but water being absorbed by the skin effects its solution, and when dissolved it is carried away.

The patient now under observation has persevered with this application for more than six months, and has been rewarded by great improvement, both in the appearance and usefulness of his hands. He has been taking iodide of potassium and cod-liver oil. It may be well to add that he has on former occasions had the same internal remedies with great advantage as to his general health, and in the relief of sub-acute gouty attacks, but without any effect on the deposits.

ART. 16.—*On Fatty Degeneration of the Diaphragm.*

By GEORGE W. CALENDER, F. R. C. S., Assistant-Surgeon to St. Bartholomew's Hospital.

(*The Lancet*, Jan. 12, 1867.)

The following cases came under Mr. Callender's observation some years ago 1855-58—whilst he held the appointment of Demonstrator of Morbid Anatomy at St. Bartholomew's Hospital, and consequently whilst it was his duty to make the medical post-mortem examinations. He publishes them now because he is not infrequently hearing of cases of death from supposed fatty heart, but in which cases the earliest symptoms have been conspicuous for the remarkable disturbance and embarrassment of the breathing as distinguished from signs of failure of the cardiac action.

CASE 1.—My attention was first drawn to the occurrence of fatty degeneration of the diaphragm by the following circumstances: J. M., a female, aged fifty-nine years, married, was admitted into St. Bartholomew's Hospital on the 30th of December, 1855, under the care of Dr. Hue. There was nothing in her condition to indicate the speedy termination of her life, for she complained only, in addition to a slight bronchial inflammation, of being faint and ill, without being able to refer to any special symptoms. She was exceedingly fat, her breathing was shallow, and her respirations rapid. The bronchial affection was quickly recovered from, and she was on the eve of leaving the hospital, when, on the eleventh day after her admission, she was found by the night-nurse "struggling for breath," and died almost immediately.

I examined her body eighteen hours after death. Although an abundance of adipose tissue existed wherever fat is usually present, the voluntary muscles retained a natural appearance. The heart and liver were far advanced in fatty degeneration, as also was the diaphragm, to an examination of which I was guided partly by the obscure circumstances attending her death and the story of the embarrassed breathing, and partly by the pale and mottled appearance of the muscle as seen through the covering of peritoneum. The other organs and vessels of the body were natural.

CASE 2.—Some time later the following case came under my notice:—S. P. M., a female, aged fifty years, single, was admitted into St. Bartholomew's Hospital, on January 1st, 1867, under the care of Dr. Hue, suffering from rheumatism of three weeks' duration, the present being her first attack. Inflammation of the pericardium, as well as of the endocardium, required especial treatment. She continued without any material change in the symptoms until the fourth day, when, at half-past two in the morning, she was seized with orthopnea, with sudden and great depression as though from some severe shock, became livid, cold, and bedewed with a clammy perspiration. Within an hour she was almost pulseless, her breathing entirely thoracic, and so noisy that nothing could be determined with the stethoscope. Her abdomen was distended with flatus, and painful on pressure; its walls were rigid and motionless. Sinking rapidly, she died the same morning at nine o'clock. Mr. Wood, to whose kindness I am indebted for this history, adds, "I could not help feeling that her mode of death resembled that from peritonitis from ruptured intestine;" and he suggested that this might be a case of spoiled and fatty diaphragm.

On making the post-mortem examination, twenty-four hours after death, the body was found tolerably well nourished, but the integument was of a dusky purple, as with people dead from engorgement of the right heart and lungs. On opening the thorax the heart was seen considerably enlarged. The pericardium was adherent, as also were the pleuræ opposite the diaphragm and the lower parts of the chest. The cavities of the heart were dilated, and the left ventricle was also hypertrophied (thick-walled). The cusps of the mitral and of the aortic valves were thickened and fringed with deposits. The lungs and the right cavities of the heart were filled with dark fluid blood. The folds of the peritoneum were laden with fat, which tissue was present only in small quantities in other regions of the body. The remaining abdominal and pelvic organs presented a natural appearance. The skull and its contents were natural.

The diaphragm was pale, with the exception of those portions which arose from the bodies of the vertebrae, and retained their ordinary aspect. On closer inspection, the remainder of the muscle was seen to be mottled with pale-yellow specks; these resembled the markings often noticed in the muscular walls of a fatty heart. When examined under the microscope, this tissue was found degenerated into fat, the granules of which destroyed and took the place of the muscular structure. The heart was the seat of ordinary fatty degeneration; but the muscles of the body, such as the intercostals, the pectorals, and the psoæ, which were purposely examined after the condition of the diaphragm had been observed, were quite natural in appearance; and the same may be said of the voluntary muscles generally in the cases which remain to be described. A drawing of this diaphragm is in the museum of the hospital.

CASE 3.—In this instance, death resulted from a combination of causes, but the disease of the diaphragm had made considerable progress. A. M., male, aged fifty-three years, was admitted into the hospital, under the care of Dr. Hue, on March 18th, 1857. It was learned from his friends that evidence of chest mischief had existed for seven months. The day before his entering the hospital symptoms of coma were first noticed; they rapidly became confirmed and persistent. When seen, the patient was in a profound coma, which continued until death. Treatment availed nothing.

The body was greatly emaciated, and the muscles generally were pale, but otherwise natural. The arachnoid was opaque, and raised from the pia mater by a quantity of serous fluid. The brain had its ventricles greatly dilated and filled with clear fluid, but there was no evidence of tubercular deposits on their lining membrane. The lungs were laden with tubercles, and were riddled with cavities. The heart was pale, flabby, and the seat of fatty degeneration. The diaphragm presented appearances like those of the heart, the crura being the parts least affected. The yellow mottling and the granular fatty change in the fibres were distinctly marked. All the other organs presented a natural appearance.

CASE 4.—In September of the same year, J. A., a male, aged fifty-two, died in one

of Dr. Farre's wards from extravasation of blood into the pons, medulla, crus cerebri and crura cerebelli of the right side, with a history of apoplexy of twenty-four hours' duration. Here also, in brief, the arteries, heart, diaphragm, and liver were spoiled by fatty degeneration.

It would be useless to enumerate other cases similar to those just related. The following history and post-mortem examination is, however, interesting as differing in many respects from those thus far referred to.

CASE 5.—E. C., female, aged thirty-two years, was admitted on Feb. 12th, 1868, into one of Dr. Burrows's wards, having suffered for five months from the ordinary symptoms of phthisis. From time to time, and more frequently of late, she had been subject to attacks of urgent dyspnoea, attended with pain, such as that supposed to characterize angina pectoris.

She was laboring under one of these when she was brought to the hospital. She held her hand to her heart region, was unable to lie down, and her breathing was entirely carried on by the upper part of the chest (superior intercostal). A cough, short and abrupt, was evidently affected by her inability thoroughly to expand the thorax. Her abdomen was retracted and fixed. Despite stimulants, her breathing became more and more labored, the pain persisting, and she died seventeen hours after her admission.

The body was emaciated. The muscles were pale, but their tissue was natural. The several organs and viscera were natural, except the following: The right heart was dilated, and both it and the left heart were affected with fatty degeneration. The bloodvessels were atheromatous. The diaphragm presented the following appearance: Its muscular tissue was pale and wasted; it was flabby, and easily torn. On looking closely at it, a number of minute yellow specks were seen scattered throughout its tissue; for the most part arranged one after the other in little lines, which took the course of the muscular bundles. Most noticeable around the central tendon, this change became less marked towards the crura; and in the latter appeared to have made but little progress. The diaphragm was firmly adherent by the pleuræ to the lungs, which in their turn were fixed by adhesions to the remainder of the walls of the chest. It was in the portions speckled as above described that the fatty decay had made the greatest advance. The lungs were filled with tubercles, in various stages.

CASE 6.—Another case was that of a charwoman, aged twenty-two, but old beyond her years; the mother of several children; a broken-down, ill-nourished creature. She was brought to the hospital on the morning of Jan. 12th, 1868, and was admitted into Dr. Burrows's ward. It was ascertained that she had suffered from a cough for three weeks; that she often broke out into a cold perspiration, with faintness, and urgent dyspnoea. She was, when first seen, in a dying state. Respiration hurried, shallow, and entirely thoracic; abdomen tender, retracted, and rigid; pulse 120, very feeble. Despite stimulants, she died four hours after her admission, complaining almost to the last of the great faintness, and of the embarrassed breathing.

On making a *post-mortem* examination, it was found that she had extensive aortic disease, with a fatty and dilated heart (foramen ovale patent), and a large congested liver. The diaphragm, like the heart, was the seat of fatty degeneration. This change, whilst it involved all that portion connected with the ribs and the tendinous arches, was absent from the crura.

That the muscle which works next hardest to the heart, and under conditions somewhat resembling its mode of action, should be liable to suffer from a similar degeneration of tissue, is sufficiently evident; indeed all which has been proved and argued for the one may with equal justice be said of the other. The unlikeness of the mode of death occurring chiefly from fatty diaphragm as compared with that from a fatty heart lies, as it seems to Mr. Callender, in the distress and difficulty of breathing which, from the onset, attends the former—a condition noticed only secondarily, if at all, with the latter.

ART. 17.—*Contributions to the Treatment of Infantile Syphilis.*

By Dr. RICHARD FÖRSTER, Dresden.

(Deutsches Archiv f. Klin. Med., ii. 2; Schmidt's Jahrbücher, 1867.)

Dr. Förster presents, in a table compiled by himself, the result of the treatment of 68 syphilitic children. As it could not be precisely made out in some cases whether the disease were acquired or hereditary, he makes use of the term infantile syphilis, and divides the children treated by himself into two classes:—

1. Children under the age of six months.

(a) Those who at the commencement of the treatment were still at the breast.

(b) Those who at the commencement were no longer at the breast.

2. Children above the age of six months: all of whom had discontinued suckling.

The general results were as follows:—

Out of 68 children (28 boys, 40 girls, the ages varying from that of twelve days to four and a half years), 45 recovered, a little over 66 per cent.; 23 died, about 34 per cent., nearly one-third. Four children were treated for one relapse; one child for a second relapse. The treatment of the relapse generally occupied less time than the treatment of the first attack.

The result of the treatment of young children presented a very remarkable dependence upon the nature of their food. Out of the 36 children under the age of six months, who, at the commencement of the treatment, and in most cases during the whole time, were at the breast, only 6 died—one-sixth; and among these is included a premature birth. On the other hand, out of 18 children, all under the age of six months, who from the beginning of the treatment were supported by artificial food, 13 died, more than two-thirds.

These figures, according to Förster, tell so plainly against artificial nourishment, as affecting infantile syphilis in a very unfavorable manner, that it is a matter for surprise that this point has not been brought more prominently forward. Förster also quotes Wertheimer, who points out that "the natural breast-food is an essential condition of the cure of syphilis in young children," and declares that, from his experience of hereditary syphilis in children, it is imperatively necessary for the mother herself to suckle the child. The treatment consisted, in most cases, in the administration of the proto-iodide of mercury. Additional remedies were applied in 21 cases: in 12 calomel was given internally, or the red oxide of mercury ointment applied externally; in 3 cases preparations of iodine were combined with the mercury. In 2 cases only was mercury not given. Nitrate of silver, and zinc and steel, were frequently added.

The dangers said to attend the use of the proto-iodide of mercury have, according to Förster, been very much exaggerated, and it appears from his experience that the limits of its applicability are tolerably wide. He insists, however, upon the fact that the remedy is to be given generally in small doses; as from $\frac{1}{2}$ th to $\frac{1}{4}$ th of a grain twice in the day, occasionally with a little opium. Förster remarks that under the influence of the proto-iodide the diarrhœa which complicates syphilis diminishes. Very severe purging, however, he states, contraindicates this remedy. The assertion that salivation is caused by this preparation is not well founded; in these cases no instance of it was observed. The whole amount of the preparation given to each child varied in different cases from $2\frac{1}{2}$ to 8 grains; the average quantity being $5\frac{1}{2}$ grains. Out of 51 children treated by the proto-iodide alone, a third died. The period during which this preparation alone was administered varied in the whole number of cases from $2\frac{1}{2}$ to 13 weeks. The whole treatment lasted generally a little over 8 weeks. The shortest period was $2\frac{1}{2}$ weeks; the longest, 33.

ART. 18.—*On Manifestations of Syphilis in the Lungs and Intestines.*

By Dr. MESCHÉDE.

(Archiv f. Pathol. Anat., Dec. 1866; Archives Générales de Médecine, Mars, 1867.)

Carl Bomme, aged thirty-six years, laborer, came under the notice of Dr. Meschede in May, 1858, and was then suffering from inveterate constitutional syphilis. Two years previously he contracted a chancre, and the usual syphilitic affections soon followed. From October, 1857, to February, 1858, he had been subjected to several courses of anti-syphilitic treatment.

When seen for the first time by Dr. Meschede he was much emaciated, and his general condition was very unsatisfactory. On both legs were presented syphilitic ulcers, which had undoubtedly succeeded to a neglected eruption. The backs of the hands were covered by numerous roseolous stains; mucous tubercles existed over nearly the whole extent of the mouth. The patient complained very much of gastrodynia, which had troubled him for two months.

The roseolous spots and the ulcerations were speedily removed by external applications, but the gastrodynia resisted every remedy: bismuth, nitrate of silver, opium, valerian, &c., were ordered, but to no purpose. The patient got worse and worse, and on May 5th, 1860, died from pleuro-pneumonia of the right side.

The body was opened on May 7th, 1860. In the small intestines were found 54 ulcers, varying in length from one to six centimetres. The bases of the ulcers, which in almost every instance involved the muscular coat of the intestine, were formed of granulations stained with black pigment; over some ulcers fibrous cicatrices had formed; small fibrous nodosities were found in the peritoneal lining at these parts where the membrane corresponded to the ulcers, and here also the serous and muscular coats were thickened. These lesions did not extend beyond the ileo-cæcal valve; the mucous membrane of the duodenum presented signs of chronic inflammation, and the pylorus was considerably thickened; the edges of the liver were atrophied, the parenchyma of the organ was pale, and the acini presented in their centres pigmentary deposits. The spleen was softened.

In the right pleural cavity was found serous fluid and also much false membrane; the inferior lobe of the right lung was carnefied; the two upper lobes were oedematous, and presented marked signs of pneumonia. Irregularly disseminated through the tissue of the right lung were found a number of knot-like deposits, each of these was of the size of a small nut, had a gelatinous structure, and, in fact, resembled in nearly every particular those morbid products generally described under the name of gummata.

ART. 19.—*Cases of Local Oedema: their Nervous or Mechanical Origin.**(Medical Times and Gazette, February 9, 1867.)*

A very curious case recently under observation in Guy's Hospital is one of oedema of the arms and hands alone, unaccompanied by dropsy of any other part. This patient, of whom the notes were taken by Mr. W. B. Lewis, was under the care of Dr. Moxon.

H. P., aged thirty-five, was admitted into Stephen Ward. He is a laborer, and has been much exposed to cold and wet. About two weeks since a swelling appeared on each shoulder, accompanied by slight pain. This lasted for three or four days, when it gradually subsided, but only to return in the arms.

On admission, it was found that there was great oedema of the upper limbs from the shoulders downwards, even to the backs of the hands. There was not

the slightest swelling of the face or of the legs, and there was no ascites. The most careful examination of the chest failed to yield any evidence whatever of disease of the heart or lungs. No thickening of any of the large veins could be detected, nor enlargement of the superficial veins. The two arms were about equal in size. They pitted deeply on pressure, but the skin was somewhat tense. The urine was of normal quantity, and contained no albumen.

The cause of the dropsy in this case appeared a mystery. It was difficult to suppose that it could arise from obstruction to the veins, for the head and neck not being swollen, the only veins which could have accounted for the condition would have been the two subclavians.

Dr. Moxon ordered him a mixture containing nitre and tincture of digitalis in infusion of broom. He was allowed to have full diet. Under this treatment the swelling rapidly subsided, and in six days after his admission it had entirely disappeared. There remained for a time a slight stiffness in the muscles, and particularly in the tendons of the fingers. He was discharged on the twelfth day, cured.

The difficulty of accounting for this case by attributing it to any local changes in the veins or other structures would probably lead many to class it with those which Professor Laycock has ascribed to the influence of the nervous system. Indeed, it probably goes much further to support Dr. Laycock's views than many of those on which he himself relied. An observation made by Dr. Hilton Fagge in the post-mortem room at Guy's, in 1865, shows, however, that the nervous system is not necessarily concerned in the production of all dropsies which appear capriciously distributed. A patient came into the hospital with aortic and mitral disease, in whom the left arm and hand were markedly more oedematous than the corresponding parts on the right side. The left breast, also, was fuller, and the left side of the face more swollen. After death, besides the valvular disease, the pericardium was found to be adherent by loose cellular tissue, and there were remains of old pleurisy on the left side. The inflammatory action had also extended to the tissues in the anterior mediastinum, above the aorta, and in front of it. All these parts (including the thymus, which was unusually distinct) were imbedded in firm fibrous tissue. The left innominate vein, in particular, was surrounded by this material, so that its walls were rigid. It contained a clot, black and soft in the centre, but firm on the surface, and adherent to the lining membrane. This clot extended upwards into the left jugular and left subclavian veins, and downwards so as to project into the commencement of the superior cava. The lower part of the clot was brown, adherent, thin, and hollowed out in the centre, so that the blood had evidently been able to pass through that part of the vein.

ART. 20.—*A Case of General Ochronosis of the Cartilages and Cartilaginous Tissues.*

By RUD. VIRCHOW.

(*Archiv f. Pathol. Anat.*, Dec. 1866.)

In a post-mortem examination of a man who had been admitted into the hospital at Berlin, for an injury to the head, and who was afterwards affected with ascites, hydrothorax, and pulmonary oedema, the following remarkable appearances were presented:—

On opening the thorax, it was noticed that all the costal cartilages were stained black, as if they had been saturated with ink. The same staining was noticed in the intervertebral disks, in the cartilages of the larynx and bronchi, in those of the nose, and in the cartilaginous part of all the joints. The color was not quite the same in all the cartilages affected; in those of the joints—as of the knee, for example—it was not so deep as in the costal cartilages, but the tint increased in intensity as it approached the osseous tissue, and at the line of union between the cartilage and the bone it was quite black.

These differences in tint were noticed particularly in the cartilages of the trachea, in which, however, the color was less intense superficially than in the centre. Very thin sections of the cartilaginous substance presented a brown color, proving that the deep black was but a condensation of brown layers. On microscopic examination, it was seen that the cartilaginous tissue was uniformly stained a brown tint.

Virchow states that these phenomena were without doubt due to imbibition. At first it was thought that the staining was the result of a long-continued use of nitrate of silver as an internal remedy. But nothing could be found in the antecedents of the patient to support this view. It was observed, besides, that those tissues which in structure approach somewhat to cartilage, such as ligaments and tendons, presented the same staining, which was deeper in the centre than at the periphery. The same appearance was noticed in the tendons of the quadriceps extensor muscle of the thigh and of the muscles of the gluteal region, also in the semilunar cartilages. The internal coat of the arteries also presented the same dark color.

By chemical examination no silver nor metal of any kind could be discovered. A pigmentary substance was extracted similar to hæmatosine, and to the compounds derived from it; it was insoluble in sulphuric acid, which, however, increased the intensity of the color.

These facts led Virchow to suppose that the staining was due to an imbibition of the coloring matter of the blood. The deeper tint of the articular cartilages, at their line of union with the osseous tissue, could be explained by the fact that at this point the vascular system is the most developed. In the same way the staining of the internal coat of the arteries could be explained, and also that of the costal cartilages, the color of which was lightest in the central parts, which are the least vascular.

The supra-renal capsules were not altered in this case, but it should be mentioned that the arteries had undergone atheromatous degeneration. The synovial membranes were unusually vascular. The knee, together with other joints, presented those changes which are generally seen in dry arthritis. The cartilages of the larynx were almost completely ossified, and the costal cartilages were twisted in a manner somewhat similar to what occurs in rickets. In all parts of the affected cartilages the cells could be seen under the microscope enlarged and multiplied, a condition which indicated chronic irritation of this tissue. Virchow proposes to call this affection *ochronosis*. He compares this pathological condition with that which exists normally in the rete mucosum of the cuticle, in the hair, and in the choroid coat of the eye. He states that a brown staining of the cartilages of the chest and bronchi is sometimes noticed after death in old people, and he considers the present case to be a more striking example of the same *pathological change*.

ART. 21.—*On the Influence of the Sewing-Machine on Female Health.*

By J. LANGDON H. DOWN, M. D. Lond., Physician to the Earlswood Asylum, and Assistant-Physician to the London Hospital.

(*British Medical Journal*, January 12, 1867.)

In this very interesting paper, Dr. Down says: "It has fallen to my lot to meet with, at the out-patient department of the London Hospital, a large and rapidly-increasing number of patients who have discarded the labor of the sempstress, and assumed the business of the machinist; and I have been for some time struck with the similarity of symptoms which many of them present. So marked have been some of the features, and so frequent has been the coincidence of the symptoms with the use of the sewing-machine, that I have been in the habit of pointing out this relation to the students who have attended my practice, and have regarded the use of the machine and the symptoms to some extent as cause and effect.

"These patients for the most part complain of palpitation of the heart; of palpitation, not depending on exertion, but frequently troubling them at night, when they assume the horizontal position. They speak of severe pain in the back, the pain extending down the thighs. Their pupils are usually dilated, and not very responsive to the stimulus of light. They complain of supra-orbital headache, of a feeling of giddiness, and a sensation of cobwebs floating before their eyes. The eyes have diminished lustre; and beneath the orbits the skin presents a darkened hue. They nearly all complain of great debility, and it is manifest that there is existing a mental as well as a physical hebetude, as betokened by the slowness with which questions are answered, and the statuesque manner of the patient; they frequently, after the examination of the pulse at the wrist, allow the arm to remain flexed for a short time in a semi-cataleptic condition. Leucorrhœa exists in nearly all the cases.

"Further inquiry being prosecuted, I found that those cases which presented the most marked features of disturbed health, were in the habit of working the machine sent out by one manufacturing house, and that the machines were so constructed that the motion was imparted by a treadle worked by the alternate up and down movement of the legs, and were heavy in their construction, being adapted for coarse work. The symptoms, which were thought to be associated with machine-working in general, were not observed among those who used machines of a lighter structure, which were worked by the flexion and extension of both feet simultaneously. I found, however, that the first kind of machine was the one in more frequent use among those who employed machinist labor, and that, consequently, a far larger number, who used the former, fell under my observation.

"While prosecuting inquiries, and endeavoring to ascertain the cause of the frequent association of the before-mentioned symptoms with sewing-machine work, I was struck with the similarity of some of the effects presented to those which my observations at Earlwood had taught me to connect with habits of masturbation. Aided by this suggestion, I was not long in discovering that the series of symptoms met with among machinists was not due to machine labor *per se*, but to immoral habits, which had been induced by the erethism which the movement of the legs evoked. In several cases the patients admitted the fact, and they recovered health on discontinuing the machine work, using cold affusion, resorting to out-door exercise, and taking bromide of potassium, with salts of iron.

"In three cases the patients were so convinced of the disturbing influence of machine-labor on their health, that they resolved on adopting the work of domestic servants, and on not returning to an employment which they felt would tend to a weakened power of will, and injury to health and morals as a sequence. They had sufficient firmness to abstain from practices which they were assured were the cause of their illness, but they were afraid to rely on their own power against the abnormal erethism which machine-labor induced.

"It will be gathered from what has been adduced that, if machines are employed, those should be selected where the motor power is effected in a manner not liable to produce local hyperæmia.

"It is not my purpose to discuss the plan which has been proposed of interfering surgically with the integrity of the female organs. Only one case has come under my observation where operative measures had been employed, and the result in that case was not such as to lead me to expect much physical or moral good from resort thereto.

"In the majority of cases where the mental power has not been shattered, physical and moral treatment is of avail. In some cases, the sudden awakening to the fact that the existence of the practice can be discovered by others, calls to their aid a resolution which breaks the chains of habit, and effects a complete cure."

SECT. II.—SPECIAL QUESTIONS IN MEDICINE.

(A) NERVOUS SYSTEM.

ART. 22.—*Case of Aphasia.*

By CHARLES R. FRANCIS, M. D., late Officiating First Physician, Medical College Hospital, Calcutta.

(*The Indian Annals of Medical Science*, January, 1867.)

The following case of aphasia possesses a peculiar interest, as being uncomplicated with paralysis, or any possible source of error in diagnosis; and as pointing, apparently, to an origin which, Dr. Francis believes, has not yet been assigned for it—viz., malaria.

"Mrs. Y., an East Indian, aged twenty-four, was admitted into the Medical College Hospital on the 4th November, 1866, perfectly speechless. Her general health, it was stated, was excellent; and she looked fairly well, though somewhat unnaturally sallow perhaps: the tongue had a bilious stain upon it, towards the base, and there was diarrhoea. She had not been brought to the hospital on account of this, however, but to have her speech restored. She was perfectly intelligent, and quite understood all that was said to her. This was evident by the expression of her face, and by her gestures. But she had lost, to a great extent, the memory of words, or if not the memory, the co-ordinating power necessary to express them. Thus, she knew well enough what a *spoon* was when it was shown to her, but she could not write the word on paper, for she could not apparently recollect it. I held a spoon before her, and asked if it was a knife? She laughed, and shook her head. Was it a fork? again a negative shake of the head. What is it, then? What is it used for? She explained its use by a gesture, making a movement as if she were taking something up with it from a plate, and then put it to her mouth. It was quite evident that she knew it was a spoon. But when a pencil and a sheet of note-paper were put into her hand, and she was requested to write the name down, she could not at once do so. She *prepared* to write it, but the preparations were so slow, that I was convinced she felt unequal to the task. She would look at the spoon attentively for a moment or so, and then suddenly bring her pencil to bear upon the paper. But she formed no letter, and again looked at the spoon, with no better result. At last, after a long contemplation, she began briskly to write the word, which it seemed had dawned upon her; still she could not get beyond S. Eventually, after further desperate attempts to express the rest of the word, she succeeded, and very hurriedly wrote down after the S *poon*. She hurried over it, fearful apparently of again forgetting it.

"It was the same with bread, butter, and pork; but when a glass tumbler was held up before her, she immediately wrote glass. (The single word glass, with the natives of India, is intended to express a tumbler made of glass, so that the usual word was given in this instance.) When asked to spell her own name, she wrote it at once, without hesitation, Margaret; but, when pressed to write the surname, she could not. That she had apparently *quite* forgotten. When she recovered her speech, she said how much she had been annoyed at her inability to write the proper words. Her behavior in the hospital was very becoming. She would sit working the greater part of the day, and would occasionally hold rational conversations with others, though always by gestures.

"During the attack, which lasted for seven days, it was suggested that she might have had a quarrel with her husband (who, by the way, is a deaf mute), and that she had feigned speechlessness. But this could not be ascertained, nor did there appear any *motive* whatever for her simulating loss of speech, to say nothing of the improbability of a patient of this description being able to counterfeit an aphasic condition. Hysteria was also suggested as a cause, and

it was proposed to galvanize her, which was done at one of my morning visits, but without any effect. In the evening of the same day she suddenly began to retch; and, after one or two attempts to vomit, *called out* to the nurse. On the following morning I held a conversation with her in English and Hindustani, and one of the students conversed with her in Bengali. She was quite herself again; and all trace of the aphasia had left her. She remained perfectly well for ten days, and then had an attack of quotidian intermittent fever, with severe headache across the temple, which remained for some time after the fever had left her.

History.—The present attack was associated with malarious fever. She had been sleeping two nights before her admission into hospital on the roof of the house on which she lived, and had woke up feverish and *speechless*. This is her *third attack*. The former occurred about the same time in the year—viz., October. She had one in October, 1864, and one in the same month in 1865. On each of these occasions she remained speechless for more than *twenty* days, and recovered, as she has done now, spontaneously. In both her former attacks she was under native treatment. Does not know whether there was then any *amnesia*. Her power of giving expression to her ideas was not tested."

Upon the above case, which resembles the first five cases recorded in Dr. Bazire's translation of Trousseau's *Clinical Medicine*, Part I. pages 218 to 222, Dr. Francis remarks that the history of each of the attacks would appear to point to malaria as a cause; and it is not improbable, he thinks, that more extended observation will show that there may be malarious aphasia, as there is malarious epilepsy.

ART. 23.—*The Treatment of Epilepsy.*

By JOHN CHAPMAN, M.D., M.R.C.P.

(*Medical Times and Gazette*, April 27, 1867.)

At a meeting of the Medical Society of London, on March 18th, Dr. Chapman read a paper entitled "The Treatment of Epilepsy: Principles and Practice." After adverting to the physiological discoveries of Marshall Hall, Bernard, Brown-Séquard, and others, by aid of which the true pathology of convulsive affections has been to a great extent developed, and showing, as has been stated by Dr. Brown-Séquard, that "epilepsy seems to consist in an increased reflex excitability of the cerebro-spinal axis, and in a loss of the control that in normal conditions the will possesses over the reflex faculty," he observed that the only rational and scientific treatment of the disease must consist (1) in discovering and removing all causes of eccentric irritation, and (2) in exerting a sedative influence on the nervous centres primarily implicated, either by direct action on those parts, or indirectly on the principles of derivation. He pointed out how the pathology of epilepsy just mentioned is totally at variance with the theory of muscular contraction, and the pathological doctrines based upon it, put forward by Dr. Bland Radcliffe, who teaches that convulsive and spasmodic affections generally are consequences and symptoms of a delicacy of nervous energy in the nervous centres presiding over the muscular system, and that therefore the most successful treatment of those affections consists in strengthening the nervous system by every possible means. Dr. Chapman described the effects of applying heat and cold over the nervous centres by means of spine bags, and showed that those effects were diametrically opposite in character to what they ought to be, if Dr. Bland Radcliffe's hypothesis were correct. For example, if ice be applied along the spine, it is fairly presumable that, should it act upon the nervous centres at all, it would exert upon them a sedative influence. Now, assuming Dr. Radcliffe's theory to be true, such an influence, by lessening the domination of the nervous over the muscular system, would facilitate muscular contraction, and predispose the muscles to assume a spasmodic or convulsive condition; whereas, as a matter of fact, ice applied along the spine, so far from producing any such result, actually arrests spasms or convul-

sions if already present. Dr. Chapman stated, moreover, that heat, on the contrary, if applied along the spine, is actually conducive to spasmodic action, and mentioned several cases in which the involuntary muscles of the vascular system are made to contract by this method. Dr. Chapman expressed his concurrence in the opinion entertained by most physicians having any considerable experience in the treatment of convulsive affections, that, of all drugs used for the purpose, bromide of potassium is by far the most efficacious. He cited evidence to prove that its action on the nervous system is that of a powerful sedative, and especially that, as demonstrated by Dr. Hammond, of New York, it diminishes the amount of blood in the brain. He argued, therefore, that inasmuch as Dr. Bland Radcliffe, when treating convulsive affections, places his chief reliance on bromide of potassium, he practically abandons his peculiar theory of muscular motion, and the whole pathological structure built upon it, and thus virtually recognizes the truth of the opposite doctrine. After urging certain objections to the continued use of bromide of potassium in doses sufficiently large to exert a beneficial influence in cases of epilepsy, Dr. Chapman showed the peculiar advantages of acting especially on the nervous centres chiefly implicated in that disease, and stated that this could be done more effectually by use of the spinal ice-bag than by any other means. Perhaps the most interesting part of this paper was that in which he explained how the numerous affections frequently associated with epilepsy, and contributing to usher in the attacks, may be treated successfully by his peculiar method. He maintained that cerebral anæmia, cerebral plethora, pulmonary congestion, nausea, vomiting, habitual constipation, functural disorders of the uterus, as well as of the male genito-urinary organs, and coldness of the feet—that very frequent concomitant of epilepsy—may all be treated successfully by modifying the temperature of some part of the spinal region.

ART. 24.—*Epilepsy.*

By AUSTIN FLINT, M. D., Professor of the Principles and Practice of Medicine in the Bellevue Hospital Medical College.

(*Principles and Practice of Medicine*, 2d edition.)

Under the head of epilepsy, Dr. Flint says of the various remedies which have been considered as curative those within late years and at the present time in most repute are the following: the nitrate and other preparations of silver, preparations of zinc, digitalis, opium, the narcotic extracts, more especially belladonna, and the bromide of potassium. The nitrate of silver has long been a remedy for epilepsy, and its occasional efficacy rests on abundant testimony; commencing with a fraction of a grain three times daily, the dose may be gradually increased to three or four grains. To avoid permanent blueness, an effect of the prolonged use of this remedy, it should be suspended for a time, after having been continued for two or three months. The oxide of silver is less likely to produce discoloration of the skin, but is less powerful as a remedy. The chloride of silver is preferred by Dr. Perry, of Philadelphia. Of the preparations of zinc, the oxide has been found curative by different observers. The mode of administration advised by Herpin, who claims that in his hands a cure was effected by this remedy in 26 of 42 cases, is to give at first from six to eight grains daily in divided doses after each meal; the quantity given daily is to be increased by two grains each week, until it reaches forty-five grains, this quantity to be continued for three months. The remedy is not to be discontinued after the cessation of the fits. Babington prefers the sulphate of zinc, and has carried the quantity given *per diem* for several weeks in succession to thirty-six grains, without producing nausea. The phosphate of zinc is recommended by Dr. Barnes. The valerianate of zinc is an eligible preparation. The ammoniated copper has been found curative. Of twelve cases treated exclusively with this remedy by Herpin, four were cured; the dose is half a grain, increased gradually to four or five grains. The sulphate of copper has

also been employed successfully. The efficacy of digitalis is attested by Sharkey, Crampton, Cormack, and Corrigan. The infusion is the preparation to be preferred; the quantity given daily is to be increased to the amount which is tolerated, and continued steadily for several months. Opium is among the remedies recommended as sometimes curative, but the evils of the habitual use of this drug are to be considered. Trousseau is an ardent advocate of belladonna, as capable of effecting a cure in a certain proportion of cases, and frequently ameliorating the condition of epileptics when it fails to prove curative. His mode of administration is to begin with a small dose of the extract (gr. 1-5) once daily, which is to be continued for a month without increase; at the end of each month the dose is to be doubled, until as large a dose as can be conveniently borne is reached. The tolerance of the remedy differs in different cases. After the disease is perceptibly modified, the doses are diminished in the same manner as they were increased. Atropine may be employed in lieu of belladonna, the mode of administration being similar. With the use of belladonna or atropine, Trousseau frequently combines the employment of nitrate of silver, copper, and the lactate of zinc.

The bromide of potassium has recently come into vogue as a remedy in epilepsy. Since the first edition of Dr. Flint's work was written, he has known of several cases of epilepsy in which this remedy has prevented the recurrence of the paroxysms. His colleague, Prof. Barker, has found it successful in preventing the paroxysms in a number of cases. He is accustomed to prescribe it in doses of thirty grains three times daily, and to insist upon its continuance for a long period.

ART. 25.—*Epileptiform Neuralgia: Epileptic Seizures: Improvement under the Influence of large Doses of Morphia.*

Under the care of Dr. RAMSKILL.

(*British Medical Journal*, January 5, 1867.)

The following interesting case of that fortunately rare form of neuralgia which has been termed epileptiform by Trousseau, from its analogy to epilepsy in the suddenness and violence of the paroxysms, was recently under the care of Dr. Ramskill.

This complaint derives a painful interest from the fact that, as yet, no cure has been found for it; and, after his extensive and prolonged experience, Trousseau makes the sad avowal that he has never known a single instance of the disease get perfectly well. If it cannot be radically cured, however, it can, at least, be alleviated; and opium is the great remedy to oppose to it. But, in order to do good, it should be used *largâ manu*. The quantity of this drug taken by some of Trousseau's patients is really marvellous. Thus, he tells us that an old lady from Antwerp took as much as one drachm of sulphate of morphia in one day, and that she consumed in one year 48l. worth of crude opium. There is no doubt that there are certain conditions of the organism which apparently resist the influence of this potent drug in a most extraordinary manner, and are yet wonderfully benefited by it. In such cases we should be guided in its administration by this maxim of the great Sydenham: "*Remedii dosis et repetendi vices cum symptomatis magnitudine omnino sunt conferendæ.*"

Subjoined is the history of this case:—

C. Y., aged thirty, married, the mother of three children, the youngest of whom is nine years old, came under Dr. Ramskill's care, at the National Hospital for the Paralyzed and Epileptic, at the end of August, 1866. She is thin, of medium size, with sandy hair, and the expression of her face is indicative of intense suffering. Her previous health has been bad, on the whole, for the last eight years, but from no special complaint; she has had no miscarriages, and there is no history of syphilis; she has never suffered from cutaneous eruptions or from ulcerated sore-throat, although she talks of having had an abscess in her throat. Her husband is healthy. Her present complaint dates from the

second week in January, 1866. She ascribes it to grief at losing her three sisters, at very short intervals of one another; and especially at the shock she had on seeing one of them die of puerperal convulsions. There is no history of epilepsy in her family. Her present complaint set in suddenly, with violent excruciating pain at the top of her head, over the area of distribution of the ophthalmic branch of the fifth nerve. This pain came on in paroxysms at all times, and made her scream out from its violence, and throw herself down on the floor if she happened to be standing at the time. She was not convulsed, and did not lose her senses for the first month or six weeks. At that time, a surgeon removed the stump of her left upper canine tooth, in hopes that the cause of the neuralgia would thus be got rid of. But no relief was obtained; and shortly afterwards she became subject to convulsive seizures, during which she struggled violently, ground her teeth, but did not bite her tongue, and was totally unconscious. She had two or three such attacks in the course of the day, and nearly every day, every one of them supervening on a series of sharp paroxysms of pain. In March, one of her upper incisor teeth was removed, as the pain in her head was brought on when it was touched, but no relief followed the operation. Up to the time when she came to the Hospital for the Paralyzed and Epileptic, she was never free from pain night or day. In the intervals between the paroxysms, she had a feeling of weight or pressure in the head.

She was an out patient at first; but was admitted as an in-patient about the middle of September. The top of her head, where she complained of pain, was exquisitely tender, and the least touch brought on a most fearful paroxysm of pain. There was, however, no swelling to be detected at that spot. There was great tenderness on pressure over both tibiae also, and along the ulnar portion of the forearms; but nowhere could any thickening of the periosteum or any node be detected. Her intellect was unaffected; all her senses were perfect; she complained of no diminution of power in any of her limbs; and she was not troubled with sickness or nausea, or with giddiness. Her bowels were regular, and micturition natural.

Suspecting that syphilis might be at the bottom of the case, Dr. Ramskill determined on trying the effects of a full course of iodide of potassium, and accordingly gave the patient ten grains of the drug three times a day. At the end of a fortnight, no improvement having been obtained, the dose was increased to fifteen grains three times a day; but again no abatement in the violence of the pain was procured. On the contrary, the epileptic seizures increased in frequency, and came on in batches. Bromide of potassium, in scruple doses, was then substituted for the iodide, and persevered in for a fortnight; but this drug, which possesses such a marked influence in controlling epileptic seizures in general, failed in this case to relieve the pain, and therefore to get rid of the seizures apparently depending on the violence of the cranial pain.

Dr. Ramskill then thought of the treatment by large and gradually increasing doses of morphia recommended by Trousseau in cases of epileptiform neuralgia, to which the present seemed to belong, and began with half-grain doses of the drug three times a day. The quantity was increased after a few days to three-quarters of a grain and then to one grain three times a day. From the third day after this treatment was begun, some improvement followed; and after a week, the patient, who had until then been unable to eat solid food because any attempt at mastication would bring on a paroxysm of pain, asked for meat. The convulsive seizures became less violent and less frequent, and she has been now free from them for the last ten days. The morphia treatment was begun on December 11th, and the patient is at present taking one grain of the alkaloid four times a day. Dr. Ramskill is determined to push it, and to gradually increase the dose, in proportion as the patient gets accustomed to the medicine.

The poor woman is loud in her thanks for the relief she has at last obtained after so many months of intense suffering. Unfortunately, as Trousseau himself declares, this treatment is merely palliative, and the neuralgia disappears for a variable period only, and again returns.

ART. 26.—*Report of a Case of Paralytic Insanity successfully treated.*

By WILLIAM DOMETT STONE, M. D., F. R. C. S., Eng. (Exam.)

(The Lancet, February 2d, 1867.)

The following highly instructive and most interesting case is put on record by Dr. Domett Stone:—

"The case here recorded is one of general paralysis with insanity, which came under my observation some time since, when medical superintendent of a lunatic asylum. I use the term 'general paralysis' in preference to that of 'general paresis'; concurring with Dr. Blandford that as the meaning of the word *paraplegia* does not accord with the symptoms of the disease more than that of the verb *παράλυω*, it is better to retain the latter until we succeed in coining a word which will describe the disease accurately.

"It has been asserted that this form of insanity is the most deadly disorder that attacks man. Only nine cases of recovery are, I believe, recorded; and it appears extremely doubtful whether these could be legitimately classed as general paralytics; for Dr. Blandford, in a lecture recently delivered at St George's Hospital, remarked—'So fatal is this disease, that no one as yet has recorded a case of recovery.' Esquirol—perhaps the highest authority on mental diseases—pronounced it to be incurable, which opinion has been endorsed by most psychologists of the present day. Such being the case, I submit that it is the duty of every man to publish the history and treatment of any case he may have the good fortune to see happily followed by a successful issue. This must be my explanation and apology, if there need be any, for placing the following case *in extenso* before the profession. Subjoined are the notes which were taken immediately after the patient's admission and during his stay in the asylum.

"F. G., single, aged twenty-six, medium height and build, sallow complexion, and nervous temperament. Supposed cause of insanity stated on the order of admission, 'unknown.' It appeared that on the twelfth day prior to his being brought to the asylum he had a fit, probably an epileptic seizure, whilst walking in the street, and fell; when picked up he was found to be insensible, and was thereupon conveyed to one of the metropolitan hospitals, where, after the lapse of a short time, he revived, and left. On his return to his lodgings his landlady noticed that 'he did not appear himself'; and on the following day, 'owing to his strange conduct and peculiar manner,' his landlady thought 'he must be going out of his mind.' Her suspicions were still more aroused on the third day, when she saw him washing a dozen or more pairs of perfectly new kid gloves, and when she heard that he had been seen to give money promiscuously to persons in the streets, and had 'by pressing it upon people' got rid of 60*l.* within a very short time. His general demeanor struck her as being very strange. His friends were now communicated with, and for a few days an attendant upon the insane was placed over him.

"*Appearance on admission into the asylum.*—Restless; talkative; incoherent in his language; in exuberant spirits; very quick in his movements; peculiar gait; tremulous tongue; expression of countenance pinched; slight impediment in his speech; has some difficulty in articulating; speech resembles that of a drunken man. Is laboring under delusions of the most exaggerated nature, especially with regard to money matters: asserts that he is worth 1,000,000*l.*, and that in the course of a few days he firmly believes he shall make 5,000,000*l.* by collecting all the tobacco that is growing in the Green-park, and by selling it at an immense profit. Says that he expects to realize a still larger fortune by introducing to the Austrian military service a uniform made invulnerable by chestnuts. Positively affirms his name to be that of one of the most popular vocalists of the day: says that he is engaged to sing at St. James's and St. Martin's Halls, and at the Oxford in *Faust* and *May Queen*; and adds that his voice brings him in 5000*l.* a day. Complains of slight headache and giddiness;

pulse quick and weak, about 85 in the minute; tongue furred; bowels constipated; skin dry; appetite good. Ordered, for the remainder of the day, a light diet; to take before going to bed a tepid bath and a brisk purge — blue-pill and colocynth.

"Second day.—Bowels opened this morning shortly after taking an ounce and a half of senna mixture. Did not sleep well. Appears drowsy, though at times sings, plays on the piano, and shouts. Restless and 'snappish' to all about him with the exception of myself, to whom he professes great friendship. Occasionally makes use of obscene language. Has during the day collected a great number of stones, and picked a quantity of grass. Says the former are agates, diamonds, and other precious stones; and the latter tobacco. And adds, if I will permit him to keep them in his bed-room he will make my fortune. Permission granted on the understanding that he keeps them in a box, which I have promised him for that purpose.

"Third day.—Slept better last night; not so drowsy as he was yesterday. Has been very restless all day, running in and out of the house, occasionally singing, playing on the piano, shouting, jumping, playing billiards, reading aloud, short paragraphs from the newspapers, collecting more stones and grass. Makes very fair meals. Ordered five minims of tincture of sesquichloride of iron to an ounce of water twice a day.

"Seventh day.—Remains in nearly the same state. Expression of countenance appears haggard; has a peculiar glare with his eyes; the expression is that so often depicted in the countenance of the masturbationist. As it has occurred to me that the patient might be given to this baneful and pernicious habit, have giving strict injunctions to his attendant to watch him narrowly.

"Thirteenth day.—Mental state and bodily condition about the same. Informed by the attendant this morning that my patient had been seen on the previous night masturbating. I accordingly spoke to him this morning on the subject; pointed out to him the usual sequence, and frankly told him that he had, no doubt, been accustomed to practise this habit for some time; that I firmly believed his present condition could be traced to it; told him that in my opinion his friends were quite right when they told him he was mad (to which fact I may mention he had several times alluded); that if he gave up the habit he might probably recover, but that if he persisted in it he would soon die. Surprising to relate, he listened most attentively to my admonition, and appeared impressed with what I had said, but denied that he had ever been guilty of the act. Imagining that I had found some clue to the cause of this 'hopeless' form of disease, I determined on giving this patient all the attention I could bestow. I had him narrowly watched, kept him as much as possible in my presence, took him out frequently, and tried every means at my command to keep his mind occupied, and thus divert it from the path it had taken. Ordered the patient to take extra meat diet; to suck two eggs every morning, which I had been informed by Dr. Henry Stevens, late of St. Luke's Hospital, he had found beneficial in many cases; and gave the following medicine:—Syrup of hypophosphate of iron, one drachm, with cod-liver oil, one drachm, twice a day—viz., after breakfast and dinner; and a pill of extract of nux vomica, quarter of a grain; sulphate of zinc and phosphate of iron, of each one grain, every night.

"Sixteenth day.—Improving; looks decidedly better; sleeps better; has ceased to collect rubbish and stones; is not so restless. Finding the patient very communicative this morning, I thought it a favorable opportunity for again broaching the matter of onanism; at first he did not appear disposed to give me a hearing, and expressed a wish to go for a walk. On my promising him that he should go out provided he gave me ten minutes' attention, he reluctantly consented. In the course of my remarks I told him that I knew for a fact that he had recently masturbated. Upon hearing this, which I asserted with some stress, he admitted his guilt, and added, 'Who has not?' I pointed out to him again and again the result of such a practice; admitted that it was perhaps difficult to resist the temptation, and assured him that as his general health improved so his moral courage would increase, and if he would only fight against the enemy he would ultimately overcome it. It was evident my

words had made an impression upon him, and from that hour I cherished the hope that he would give up the habit and probably recover.

"Eighteenth day.—A marked improvement in his general health and mental state. Has not so many delusions; the stone and tobacco fallacies no longer exist. Tongue clean; bowels regular; skin moist; a good full pulse; appetite hearty. To go on with the medicine.

"Twenty-second day.—Continues to improve in every respect; is at times 'peevisish,' and requests to know why he is kept in an asylum and not allowed to go home. Goes out frequently. Objects to take the cod-liver oil, asserting that it causes diarrhœa; it is therefore omitted.

"Thirtieth day.—Went to church yesterday; behaved well throughout the service.

"Thirty-fourth day.—Is increasing in weight; general health good; mental state improving; delusions are disappearing. He now laughs at some, and says he can hardly believe that he has had those that are imputed to him. Still persists that he has 'hit upon a plan'—the chestnut scheme—by which a uniform can be made invulnerable, but says it is not *very clear*. Maintains that his voice is magnificent, and firmly believes that when he leaves the asylum he will be overwhelmed with engagements to sing in public, which he shall most undoubtedly do.

"Fortieth day.—Has promised to return to the cod-liver oil; the pills to be taken every night; to continue the iron.

"Forty-sixth day.—Occasionally writes letters, but of an incoherent nature.

"Fiftieth day.—The chestnut delusion he now laughs at. Still asserts that his voice is the finest in the kingdom, and that it will bring him in thousands a year.

"Fifty-third day.—Persists that he has a fine voice (which he certainly has), but adds he has no intention of singing in public—pooh poohs the idea of making money by it.

"Fifty-sixth day.—Has been frequently visited by friends; pronounced by some to be well, but by others to be still 'rather peculiar.'

"Fifty-ninth day.—It is now impossible to detect any symptoms of aberration of intellect. Writes frequently to his friends, and expresses his thanks for the kindness he has received during the time he has been in the asylum. Promises to remain 'as a guest' for a few days.

"Sixty-first day.—Pronounced 'well' by his most intimate friends, who have known him for years; and some of whom, I may add, are members of the medical profession, whose opinions therefore should have great weight.

"Sixty-third day.—Discharged cured.

"That excessive mental work with insufficient nourishment, and sexual excess, either separately or combined, will cause paralytic insanity is universally admitted. That the subject of this case had overtaxed his brain, and had always been neglectful as regards his diet, was affirmed by his friends; that he was addicted to self-abuse is an indisputable fact. We may therefore reasonably conclude, I think, that the co-existence of these gave rise to F. G.'s insanity; of this there exists no doubt in my mind. Is it surprising, then, that abstinence from mental work, with nutritious diet, constant exercise, varied amusements, and the diversion of the patient's mind from some subjects and the drawing his attention to others, together with medical treatment, should have had such a salutary effect, and have finally most happily contributed to the patient's restoration to health?"

ART. 27.—On the Temperature of Paralyzed Parts.

By M. H. FOLET.

(*Gazette Hebdomadaire*, No. 12, 1867.)

M. Folet has drawn the following conclusions from a great number of observations which are given in detail in a long and elaborate essay upon the temperature of paralyzed parts:—

(1.) In the great majority of cases hemiplegia is from its commencement accompanied by an elevation of the temperature of the paralyzed side; calorific equilibrium persists very rarely, and diminution of temperature is scarcely ever met with. MM. Prévost and Cottard have mentioned one instance, but in this case the thermometer was applied to the hand.

(2.) The usual elevation of the mercury is easily made out; it may vary between $\frac{1}{4}$ ths and $\frac{1}{2}$ ths of a degree, but seldom exceeds more than one degree. M. Folet has not observed it to reach so far, even in the axilla. M. Charcot has asserted that, in the comparative temperature of the hands, there may be differences of 3, 4, and even 9 degrees. But the hands do not present so many guarantees for preciseness in thermometrical observations as the axilla, for they are so easily cooled by external influences, that even in their normal state a difference in temperature varying from $\frac{1}{4}$ to 1 degree may sometimes be observed between them.

(3.) The presence or absence of muscular rigidity has not been observed to have had any marked influence upon the thermometer.

(4.) Various causes may for a time reduce the thermometric differences, and even reverse them. In a case where phlebotomy was performed upon a paralyzed arm the temperature was lowered; but on the following day it was the sound arm that was found to be cooler than its fellow.

(5.) The difference of temperature may be present in all cases of hemiplegia symptomatic of the various cerebral lesions, as apoplexy, softening, &c. In whatever part of the encephalon the lesion was situated increased temperature of the opposite side was always noticed by M. Folet, but a sufficient number of cases have not yet been observed to enable him to decide whether the seat of the lesion influences in any way the amount of the difference.

(6.) The cure of the paralysis restores the thermometric equilibrium. When the paralysis persists, the period of duration of the elevation varies extremely in different cases. Whilst in certain patients, especially in those who have not been attacked suddenly with hemiplegia, it may not continue longer than two months, it may in other individuals persist for many years. However, in cases of hemiplegia of long standing, a time arrives sooner or later when the thermometric equilibrium is restored; this occurs, M. Folet thinks, at the commencement of consecutive atrophy.

(7.) Well-marked paralytic atrophy is accompanied by a variable depression of the temperature.

(8.) When after long-continued hemiplegia, connected with persistent excess of heat on the affected side, the other half of the body is paralyzed in its turn, the thermometric equilibrium is either re-established, or an increase of temperature may be manifested on the side recently paralyzed.

(9.) With regard to the general temperature of patients attacked by cerebral hemiplegia it has been noticed that, as a rule, it is not increased, and does not exceed an average of 37° C., except in the last hours of life, when it may reach $38^{\circ} \cdot 4$ C., and even $39^{\circ} \cdot 4$ C. This extreme elevation of temperature in subjects who are advanced in age is an unfavorable prognostic.

ART. 28.—Chorea Treated by Richardson's Apparatus.

(*The Lancet*, March 16, 1867.)

An interesting case in which chorea was successfully treated by freezing the skin over the spinal cord has lately been recorded in the *Gazette Hebdomadaire*, and tends to some extent to support the ice theory of Dr. Chapman. A little girl, of about seven years old, was attacked with chorea, and presented herself to Dr. Lubelski, who, having tried in vain the usual tonic and antispasmodic remedies, determined to produce "anæsthesia of the spinal cord" by means of ether spray. The instrument used was the variety of Richardson's apparatus employed by dentists, and which has a double nozzle. It was applied to both sides of the spinal cord, and the ether spray was forced upon the surface for

about three or four minutes, the operation being twice repeated. The result was that all the abnormal movements ceased, and the natural powers of motion were restored.

ART. 29.—*On Paralysis following Dysentery.*

By M. DELIOUX DE SAVIGNAC.

(*Gazette des Hôpitaux*, No. 43, 1867.)

M. Delieux de Savignac read before the Imperial Academy of Medicine a memoir on the forms of paralysis that accompany and follow dysentery and dry colic, and on their treatment by nux vomica.

After referring to the recent observations by which attention has been directed to the paralysis of motility accompanying or following various acute diseases, M. Delieux de Savignac pointed out the frequent connection of paralysis with dry colic and dysentery, many cases of which he has observed. According to the author's opinion, this paralysis is caused by an extension of a lesion of the spinal cord which, in these two diseases, acts upon the intestines; and by this intestinal paralysis he explains the principal phenomena of dysentery and the dry or nervous endemic colic of warm climates, between which two affections he considers many connections exist, the paralysis, however, does not act in precisely the same way in both cases.

M. Delieux de Savignac refers to a case in which softening of the cord at the cervical and lumbar swellings was found at the autopsy of an individual who had suffered from chronic dysentery, complicated with a progressive paralysis which finally involved the muscles of the thorax, and caused death by suffocation. He thinks that this case favors very much his opinion concerning a real lesion of the cord in dysentery, especially when this disease is connected with paralysis of the limbs. Two other cases are also reported, in which paralysis, similar in nature and rapidly fatal, followed attacks of dry colic in tropical regions.

For cases of this kind, M. Delieux de Savignac recommends the use, both internal and external, of nux vomica. This agent has been useful not only in the paralysis of external parts, but also for the treatment of the intestinal lesions of chronic dysentery, in which it has often served to improve the condition of the evacuations.

The author, after comparative trials of the two therapeutic agents, prefers nux vomica to electricity in the treatment of the paralysis in question; he attributes the superior efficacy of the drug to its special influence upon the spinal cord, and to the duration of its effects.

If nux vomica and electricity both fail, the author recommends the use of sulphurous thermal waters, which should be directed with much caution in cases of dysenteric paralysis, for fear of increasing the severity of the original malady, or causing a relapse. Where paralysis follows dry, nervous, or lead colic, he especially recommends the springs of Barèges, which, in his practice, have frequently exerted a happy and remarkable influence upon cases of this kind.

ART. 30.—*On Impaired Motility after Diphtheria.*

By Dr. BRENNER, Petersburg.

(*Petersb. Med. Zeitschrift*, x. 4, 1866; *Schmidt's Jahrbücher*, No. 1, 1867.)

Brenner distinguishes three forms of this affection: 1st. Simple ataxie. 2. Paralytic ataxie. 3. True paralysis.

1. *Simple ataxie* occurs when a voluntary muscle loses either the normal counterbalancing on the part of its antagonist, or the normal assistance of its associated muscles. This may depend upon disease of the centre of co-ordination, or upon any impediment in the paths along which the impulse of co-ordination is carried. The preponderance gained by a single muscle in this manner gives to it so much power that it produces under the influence of the

will and of Faradisation abnormally excessive movements of the limbs. There may be also an elevated irritability to electrical stimuli. In cases of this kind the symptoms are like those of *tabes dorsalis*.

2. *Paralytic ataxie* consists in partial paralysis, with a normal condition of a few muscles, or in irregular paralysis of all the muscles of a limb. Those muscles which are unaffected or but slightly impaired in function preponderate over those which are extensively or completely paralyzed. This preponderance will, however, diminish in course of time, as soon as all the muscles are involved in the progress of the paralysis. The paralyzed muscles are functionally impaired.

3. *True paralysis*.—Here all the signs of ataxie are absent. The paralysis varies in degree.

Dr. Brenner gives examples of these three forms of disease. His treatment consisted essentially in Faradisation and galvanism.

The prognosis of diphtheritic paralysis is not so favorable as it is generally considered. Many cases get well when treated by tonics, but many do not, and are quite incurable, except by electrical treatment. Even the cure of paralysis of the palate is accelerated by electricity. It is necessary that all cases of diphtheritic paralysis should at once be treated by this agency. In paralysis of the palate, artificial deglutition should be produced by exciting the hypoglossal nerve. Nasal speech continues longer than impaired deglutition.

The remaining paralyses always require, after the reaction from the electric and galvanic currents, a treatment varied with such efficacious alterations as may be indicated from time to time.

(B) RESPIRATORY SYSTEM.

ART. 31.—*Chronic Bronchitis*.

By E. HEADLAM GREENHOW, M. D., Fellow of the Royal College of Physicians, Assistant-Physician to the Middlesex Hospital, &c.

(*The Lancet*, February 16, 23, March 9, and April 20, 1867.)

In speaking of this exceedingly common, but most important disease, Dr. Greenhow said, in a clinical lecture delivered at the Middlesex Hospital—

“Bronchitis is essentially an inflammatory affection of the pulmonary mucous membrane, attended by more or less of flux from the inflamed surface. Although it is always manifested by similar symptoms, and is therefore pathologically known by one name, it is by no means of uniform character in different persons, but varies much in extent, intensity, and duration. It may be limited to the larger branches of the bronchial tree, or it may extend to the capillary tubes. It may be a more or less severe acute attack, running a comparatively rapid course, and ending in perfect recovery; or it may take a chronic form, and its duration be indefinitely protracted. In its severer forms it is a very fatal disease, especially to the young, the delicate, and the aged. In its milder forms it is attended by no immediate danger to life; but as a bronchial membrane which has once been inflamed is, for a longer or a shorter time afterwards, very prone to take on a recurrence of inflammation from comparatively slight causes, even a mild attack of bronchitis, unless judiciously managed and carefully watched, may, especially in persons whose health is otherwise not perfect, become the starting-point of a chronic bronchial affection, and may thus lay the foundation for life-long delicacy or for various secondary ailments.

“Although the general symptoms of bronchitis are always similar, inasmuch as it is always the same structure which is the seat of irritation, this irritation may be produced by very various causes, some proceeding from without and others from within the organism; some accidental, and others constitutional. One cause which I have on other occasions shown to produce an immense amount of bronchial disease in certain manufacturing districts of this country, is the inhalation of mechanical irritants, such as fine grit, dust, or fluff, by the operatives employed in various industries. Exposure to cold or damp is, how-

ever, generally regarded as the most frequent exciting cause of bronchitis. Sometimes such exposure is, in fact, the only cause, as when an attack of bronchitis results from falling into a pond, remaining for some time wet-shod, getting chilled or wet through on a journey; or else from exposure, without proper precautions, to sudden changes of temperature, such as from the hot and dry air of a crowded church, ball-room or theatre to the cold and damp atmosphere out of doors. Nevertheless, there can be no doubt that in many instances such causes only excite the disease when a strong predisposition to it already exists, either from delicacy of the bronchial membrane, consequent on previous attacks, or on long-standing local irritation from the inhalation of dust or of over-dried air, or else from some constitutional derangement of health. I am, moreover, well assured from long and careful observation that chronic bronchitis is sometimes the direct consequence of some constitutional vice irrespective of exposure to any adequate external exciting cause. In confirmation of this opinion, I may remind you that bronchitis, although certainly by far most prevalent in the colder season of the year, is by no means peculiar to it, and that it recurs periodically in summer instead of the more usual season of winter, and generally, on such periodical recurrence, is associated with some well-marked constitutional disorder. The relations between chronic bronchitis and various other ailments, local or constitutional, may be those either of cause or of consequence: as when, on the one hand, bronchitis produces some secondary lesion either of lungs or heart, or some more remote sequence, such as disease of liver or kidneys; or as when, on the other hand, bronchitis is itself the secondary result of some constitutional vice, such as gout or syphilis, or of some local affection, such as cardiac or renal disease.

"Bronchitis may thus be either a primary or a secondary affection. Primary, when it is, so to speak, the starting-point of the illness, as in cases where a catarrh contracted from exposure passes into chronic bronchitis, or when bronchial irritation excited by the inhalation of dust develops the disease; secondary, in those cases in which the bronchial affection arises out of some constitutional tendency or some other previously existing ailment, such as any of those I have just named. Again, bronchitis may be associated as a complication with other diseases, such as measles, or whooping-cough, or with other pulmonary affections, such as phthisis or pneumonia. In order to avoid misapprehension, however, I should perhaps add that I have only quoted the above as examples, and by no means as a complete catalogue, of the diseases with which bronchitis is intimately related.

"I have made a careful analysis of all the cases of chronic bronchitis which have come under my care during the last three months, chiefly in the out-patient department of the hospital. Bronchitis being, however, often a mere result of the wearing out of the machine in advanced life, I have excluded from my analysis all those cases which could properly be classed under the head of senile bronchitis. After this deduction, there remain ninety-six cases, of which fifty-five were those of males, and forty-one those of females; sixty-nine of the number being between the ages of twenty and fifty years. The points more particularly attended to in taking the history of the several cases were—

The duration of the disease.

The influence of season on its accessions.

The previous history of the patients as regarded other diseases or exciting causes.

The existence either of a hereditary or an acquired tendency to any form of cachexia.

The actually existing complications.

"I need scarcely say that, in many cases, reliable information on one or more of these points was not to be obtained, but notwithstanding such partial failures, I was enabled, on the whole, to collect sufficient information to serve my present purpose of showing you how largely the origin of chronic bronchitis may be referred to some constitutional condition, and again, how frequently the first attack of this disease, and therewith the disposition to subsequent attacks, may be traced back to some preceding illness.

"On analyzing the cases with reference to the several points which I had kept

in view while taking them, I found, in the first place, as regards the duration of the disease, that a very large proportion of our out-patients had already suffered from several, and some from many, attacks previous to the one for which they came under my care during the present season. In twelve cases only was the existing attack the first, or even the second, from which the patients had suffered. In forty-nine of the remaining cases the patients have been subject to attacks of chronic bronchitis for periods varying from five to twenty years. In some instances the disease had commenced in childhood, and had recurred annually up to the time of the patient's coming under observation. In a few cases there was never entire freedom from the disease; in a few others, again, it was said not always to recur annually, but occasionally to miss a year. In some at least of these cases, however, it seems probable that the attacks were milder, rather than altogether absent, in certain years, for, on close inquiry, it appeared that the patients did not regard as an accession of their complaint anything short of an attack sufficiently severe to disable them from following their usual avocations.

"As regards the second point—namely, the influence of season on the development of the periodical accessions of the disease, it was found that winter was exclusively the season of attack or exacerbation in fifty cases; that in a few cases the attacks came on only in spring and autumn; in a few others in summer as well as in winter; and that in about twenty cases the patients could scarcely be regarded as being ever free from their ailment, though it was liable to be aggravated by every undue exposure and every change of season.

"We have now arrived at the points which relate to the previous history of the patients, and to the existence of an hereditary or acquired tendency to any form of cachexia, and these include branches of the investigation not only essential towards elucidating the etiology of the disease, but also practically important, in a degree it is scarcely possible to overrate, with reference to the treatment of every individual case. How, indeed, shall we be able to prescribe for our bronchitic patients to the best advantage, unless we cannot only ascertain the existence of bronchial irritation, but can also determine whether this irritation be primary or secondary—whether it be the result of an external cause or of an internal condition? Unfortunately, for one reason or another, it was impossible in a considerable number of cases to obtain any really trustworthy account of the patient's previous history, which was therefore only recorded in sixty-six cases, or rather more than two-thirds of the whole number. In thirty-six, or considerably more than half of these cases, the patients had at some previous time suffered either from gout or rheumatic fever, or from some form of gouty or rheumatic affection; and in three cases I ascertained that the patients had been subjects of psoriasis or eczema, which are frequently the results of a gouty taint in the constitution, and which had probably existed in many more instances; for, as will be seen, these complaints were present as actual complications of the bronchitic disease in a considerably larger proportion of our cases. Of the other twenty-seven patients, only one had been in perfectly good health previous to the illness for which he came under my care during the present winter. Four dated the commencement of their tendency to bronchitis from an attack of one of the exanthematous diseases; two referred it to a previous definite attack of inflammation of the lungs; five to the inhalation of dust in the course of their industrial occupations; and only five actually traced it to exposure or any of the ordinary causes of taking cold. In the remaining ten cases the patients had long been liable to frequently-recurring attacks of catarrh, cough, or dyspnoea, but were unable to assign any cause for the commencement of their ailments, though it seemed probable that in several the bronchial delicacy had originated in an attack of whooping-cough.

"Just as in many cases we found it impossible to obtain trustworthy reports of the patients' previous state of health, so, in a still larger proportion of cases, we were unable to collect accurate and reliable facts regarding the family history, which was therefore only recorded in fifty-four cases. The only fact under this head to which I intend now specially to direct your attention is the frequency with which other members of our patients' families were found to have habitually suffered from some other form of pulmonary disease, or from gout.

In eighteen cases there was a distinct hereditary tendency to phthisis, and in twenty-nine to bronchitis or asthma. In thirteen of these twenty-nine cases some other, often several other, members of the patient's family had also suffered from gout—a fact which is important to be observed, as bearing upon the strong tendency to bronchitis in a person of gouty constitution, which has already been brought out by the analysis of the previous history of sixty-six of our bronchitic patients.

"There remains only the last point—namely, that respecting the ailments actually complicating the bronchial affection in each individual case, while under observation; and here, as the evidence was before us, and careful observation only was needed to ascertain the truth, we have entirely trustworthy facts regarding all the ninety-six cases. The bronchitis was uncomplicated in thirty-nine cases, but in fifty-seven cases, or three-fifths of the whole number, the bronchial affection was associated with some form of gouty ailment, or some cardiac disease, or some other lesion of the lungs, and in some instances two or more of these complications were found in the same patient. In eleven cases gout was present in its regular form, and in five there were arthritic pains and swellings, of the form commonly called rheumatic gout. Psoriasis or eczema was present in eleven, and albuminuria in eight cases. I have already told you that psoriasis and eczema are often of gouty origin—that is to say, that they habitually occur in persons who have either themselves suffered from gout, or in whose family there is a decided gouty taint; and I may now mention that albuminuria is also frequently induced by a gouty state of the system; and, in fact, co-existed with gout, or occurred in gouty constitutions, in several of the eight cases here referred to. It is, therefore, no matter of surprise to find, as I have said, as indeed many of you have had an opportunity of observing, that cases of bronchitis are often complicated with more than one of these affections at the same time—as, for instance, with gout and psoriasis, or with gout and albuminuria, or even, as in one remarkable case which I shall relate to you, with gout, psoriasis, and albuminuria all together. There were, however, other complications to which I must also refer. In fifteen cases, nine of which showed rheumatic fever in their previous history, the bronchitis was associated with cardiac disease; in nine other cases with emphysema, and in three with phthisis. Bronchitis is, indeed, a frequent attendant on phthisis; but I have excluded from the cases selected for my present purpose all ordinary cases of phthisis, and have only admitted the three cases last mentioned, because in each of them the bronchitis was the predominant ailment, being general, and its symptoms well marked, whereas the phthisis was of limited extent, and its symptoms by no means prominent. You will recollect that we found a distinct history of phthisis in the families of eighteen of our patients, from which it would seem that sometimes, when the family tendency has not been developed in the form of genuine phthisis, bronchitis has taken its place. Of this fact I have seen many examples; but I have also seen some very remarkable cases of the converse, in which a bronchitic parent has had phthisical children, and it will perhaps not be out of place here to mention briefly three instances of this which occur to me, with the full details of which I have become accurately acquainted in the course of private practice. In the first case, both parents lived to upwards of eighty years of age; but the mother had suffered from chronic bronchitis from the age of seventeen, and all the sons of the marriage died of phthisis between the ages of twenty-five and thirty-five years. In another case, the father died of typhus at sixty-four, and the mother survived to the age of seventy-eight, though she had suffered very long from chronic bronchitis, of which disease she ultimately died; but all the daughters, with the exception of one, died of phthisis before the age of thirty. A similar history attached to the third family, in which the father lived to the age of eighty-six; the mother died at seventy-three, after suffering more than twenty years from chronic bronchitis; but all their daughters died phthisical in comparatively early life. The frequent occurrence, on the one hand, of bronchitis in members of phthisical families, as shown in my analysis, and, on the other hand, of phthisis in the offspring of bronchitic parents, as in the cases I have just related, would appear to prove that the tubercular dyscrasia may be a cause of chronic bronchitis,

quite independently of the existence of any actual deposit of tubercle in the lungs.

"With reference to the general facts elicited by the above analysis of the history and complications of ninety-six cases of bronchitis, I should not omit to tell you that this number is much too small to authorize the assumption that similar proportions will be found always to obtain in respect of the etiology of the disease. I have myself prominently brought forward the fact that in some manufacturing districts the proportion of cases of bronchitis arising from one external cause—namely, the inhalation of dust—is enormously increased. But I am, nevertheless, fully assured of the substantial truth of the views which I have given you on the subject, and am, moreover, satisfied, from long personal experience, that the proportion of cases of bronchitis arising from external causes is decidedly smaller, and that from gouty and other internal conditions of the system is decidedly larger, among the higher classes of patients whom we meet with in private practice, than it is among the working classes who form the bulk of our hospital patients."

Dr. Greenhow selected several illustrations from among the cases included in his analysis. The first was an example of simple primary bronchitis arising from exposure to cold and wet, and leaving, apparently, a life-long delicacy of the bronchial membrane. The patient derived much benefit from the use of the compound squill draught in combination with tincture of hyoscyamus and spirit of chloroform, and, as soon as the more urgent symptoms had abated, Dr. Greenhow substituted for these a mixture containing diluted nitrohydrochloric acid and compound tincture of gentian with the tinctures of larch and hyoscyamus. Under this tonic system of treatment he improved very greatly in all respects. "This case belongs," Dr. Greenhow said, "to a class in which great benefit may be derived from medical treatment during the exacerbations of the chronic bronchial affection, and in which much may be done by care and proper management to retard the progress of this latter; but in which also the disease itself has been too long and too firmly established to give us much hope of being able to effect a permanent cure, especially in persons necessarily liable to undue exposure. I have little doubt that on the first such occasion our patient will suffer a fresh aggravation of his malady, and will either find his way back to us, or seek relief at some other hospital."

In persons like this patient, who have long been subject to chronic bronchitis, Dr. Greenhow said, "I find the more stimulating expectorants, such as squills, the most effectual. But in almost all cases of chronic bronchitis a time arrives when expectorants cease to be useful. More or less expectoration indeed continues; but the secretion is of the nature of a flux from the bronchial membrane rather than the result of irritation. The treatment now required is of a tonic character, and zinc, iron, or quinine, will all of them at times be most useful; but I have long been accustomed to prescribe with great advantage the mineral acids, especially nitrohydrochloric acid, in combination with a vegetable bitter, retaining frequently the ipecacuanha and hyoscyamus. In old chronic cases attended by very copious expectoration, such balsamic medicines as ammoniacum, copaiba, Canada balsam, and benzoin, are often of great service; but as they are at the same time apt to disagree with the stomach, and as the digestive powers in such cases are often very feeble, I have for the last eight or nine years been using, in their stead, the tincture of larch, which has no such tendency, and which I have found at least equally serviceable in regard to the bronchial affection. Its effect is not only to lessen the expectoration, and with it the cough and dyspnoea, but also apparently to restore the debilitated membrane to a more healthy tone, and render patients less liable to catarrhal attacks at every change of weather or season. I take this opportunity of cautioning you against the indiscriminate use of blisters in bronchitis. Although they may sometimes be employed to great advantage in the chronic form of the disease, they must be regarded as unsafe remedies unless the kidneys be perfectly healthy. In gouty persons, or whenever we have the slightest reason to suspect any tendency to renal disease, the use of blisters is hazardous, on account of their liability to produce irritation of the urinary organs. Probably this objection may apply less strongly to the use of liquor vesicans or of blistering-paper than to the old-

fashioned blister; but it is more prudent in doubtful cases to abstain altogether from these modes of counter-irritation.

"Useful as medicinal agents undoubtedly are in allaying or curing attacks of bronchitis, I need not tell you that whenever the bronchial affection is even partially referable to an existing external cause, no permanent good can be effected without the removal of that cause."

Dr. Greenhow next entered on the consideration of secondary bronchitis, more particularly upon the relations between chronic bronchitis and the gouty dyscrasia, as shown in the remarkable fact, elicited by his analysis, that in thirty-four, or more than one-third, of ninety-six cases of bronchitis a distinct gouty history attached either to the patients themselves or to some other members of their families.

First, then, as regards the patients themselves, "I find that no less than fourteen were subject to attacks of acute regular gout as well as to bronchitis, and that in nine of these cases gout co-existed with the bronchitis while the patients were under my care. Eleven others had suffered from chronic gout attended by the formation of chalk-stones, or from what has been called rheumatic gout. I am indeed aware that some of our most eminent authorities consider regular gout and rheumatic gout as entirely different complaints; but I have so frequently seen rheumatic gout in persons some of whose immediate relatives suffered from regular gout, that I have no hesitation in regarding them as at least closely allied diseases. In the cases of nine other patients who had not themselves shown any symptoms of gout, it was ascertained that near relatives, such as parents, brothers, or sisters, had suffered from that disease; and this number, probably, by no means represents the true proportion of such cases, for, as you will remember, the family history could not be made out in much more than half the ninety-six cases analyzed. These three numbers, however, fourteen, eleven, and nine, make up the thirty-four cases which I mentioned as showing the intimate relation between a gouty constitution and chronic bronchitis. The evidence on this head is, I think, strengthened by the fact that, in many instances, while some members of the patients' families had gout, others had bronchitis, and others again suffered from both complaints.

"In many cases in which, from active and temperate habits or from some other cause, an hereditary tendency to gout has not been developed into the characteristic form of that disease, it has manifested itself in the form of chronic bronchitis.

"In support of these views, I may mention that I have frequently known bronchitis and gout alternate; an obstinate attack of bronchitis subsiding on the occurrence of a smart fit of gout, and, though less frequently, *vice versâ*—bronchitis being developed on the subsidence of gout."

Dr. Greenhow illustrated his remarks on this subject by reading several instructive cases, which he classed under the head of gouty bronchitis.

The first patient whose case was related had suffered from definite attacks of both gout and bronchitis, and was stated to have been subject to occasional psoriasis, one of those cutaneous affections which, Dr. Greenhow said, "are of common occurrence in persons of a gouty constitution. According to my view, therefore, that chronic bronchitis is frequently due to that same constitution, it is by no means surprising that, as the results of my analysis have shown, we find psoriasis or eczema associated with bronchitis in a considerable number of cases. These eruptive diseases often co-exist or alternate with gout in an individual bronchitic patient; but they are also sometimes present when there is no other proof of a gouty tendency in the personal history, though rarely, I think, unless they are of syphilitic origin, without the existence of some evidence of gout in the patient's family. One or other of these cutaneous affections existed in eleven of my patients during the time they were under my care, and of these, eight were subject to regular or rheumatic gout in their own persons, and there appeared to be a more or less decided gouty taint in the families of the remaining three. There were also three other patients who stated that they were subject to psoriasis or eczema, although free from those complaints while under my observation. They had not themselves suffered from gout, and were unaware of the existence of that disease in any member of their respective families; but

the skin affection had certainly not been of syphilitic origin in any of the three instances, and, from the character of the bronchitic symptoms and the general aspect of the cases, as compared with those in which the psoriasis co-existed with the bronchitis, I had little or no doubt at the time that the bronchial and cutaneous affections both owed their origin to the existence of a gouty taint in the blood.

"The true relation which I believe to exist between chronic bronchitis, gout, psoriasis, albuminuria, and gravel, is that they all depend upon a common humoral dyscrasia, which in one case produces gout, in another gravel, in a third psoriasis, or, as in the cases which we have been considering, bronchitis co-existing or alternating with one or more of these other ailments. These are all, therefore, examples of one form of what in my last lecture I called Secondary Bronchitis—that is to say, bronchitis arising out of some internal condition of the system; that internal condition being, as we have seen, in all these cases, the existence of the humoral dyscrasia which is recognized as the cause of gout.

"Regarding the treatment of this form of secondary bronchitis, it is clear from the necessarily complicated nature of the subject that I cannot pretend to give you, especially within the limits of this lecture, any specific directions apart from the indications you will not have failed to gather from my own treatment of several of the cases discussed. The remedies appropriate to the bronchitis and to the other affections must obviously be varied and modified from time to time, in order to meet the constantly varying conditions of different patients, or of the same patient at different times; and this it is only possible to illustrate by means of examples, which might be infinitely multiplied if time allowed. The one essential point towards the successful treatment of all such cases is that you should constantly bear in mind the presence of a constitutional cause for the local affection, and not rest satisfied with directing your efforts towards the removal or alleviation of the bronchitis, but endeavor as far as possible to combat the dyscrasia which is the real source of the patient's ailment."

ART. 32.—*On the Differential Diagnosis of Pneumonia and Tuberculosis.*

By Prof. SKODA.

(*Allg. Wien. Med. Ztg.* 1863; *Schmidt's Jahrbücher*, 1867.)

Pulmonary infiltration can be diagnosed with certainty by percussion and auscultation of the thorax. Other assistance, however, is required for obtaining an exact diagnosis between pneumonia and tuberculosis, and for that purpose Skoda points out the following differential signs:—

1. The difference of the courses of the morbid processes. Pneumonia, in the great majority of cases, is an acute disease; tuberculosis is but rarely so. Whilst pneumonia generally attacks individuals who are healthy, acute tubercular infiltration very rarely appears in those who were just before in good health, but, in most cases, in those suffering from chronic tuberculosis.

2. The general bodily constitution. If a man, of a so-called phthisical habit, be suddenly attacked with an acute disease, a suspicion of tuberculosis is always justifiable, although the patient may be affected with pneumonia.

3. The seat of the disease is a very important point. If the patient be affected with an infiltration in the lower part of the lung, it can be said with precision, if he had been just previously in good health, and with great probability, if he had suffered at a previous period from tuberculosis, that the case is not one of acute tuberculosis. If infiltration take place in the apex of the lung in a healthy, robust, and strong man, this may be considered as a case of pneumonia; if, on the other hand, infiltration take place into the upper part of the lung of an individual already affected with chronic disease, the probability is very great that the case is one of tuberculosis.

4. Though at the commencement of tuberculosis and pneumonia the feverish symptoms, the cough, and expectoration are very much alike in both diseases, this is not the case with the stage of infiltration. In pneumonia this stage is

developed very quickly, and may be observed on the first day, or from twenty-four to forty-eight hours after the commencement of the fever; in tuberculosis, on the contrary, dyspnoea presents itself late, and in a less severe form.

5. Pneumonia generally commences with feverish symptoms. The fever is a continued form, or it may be marked occasionally with very slight remissions. The development of tuberculosis, on the other hand, is frequently accompanied by febrile paroxysms of an intermittent character; the fever is, however, sometimes continued, but marked with considerable remissions.

Lastly, whilst ordinary pneumonic infiltration disappears without leaving any trace, and in the very rare cases in which the affected lung tissue becomes actually destroyed, and healing is only completed after a removal of lung tissue, this removal is at least compensated by a very active formation of connective tissue; in tuberculosis, destruction of the lung tissue is the rule. The disease, when it has attacked any part of the lung, never retrogrades, the cure is accomplished either through wasting of the parenchyma or through the formation of cavities.

ART. 33.—A Case of Pleurisy treated by Thoracentesis and Injection of Iodine.

By Dr. GUYÉNOT.

(*Mémoires de la Société des Sciences Médicales de Lyon.*)

"A man, thirty-four years of age, came under the care of Dr. Guyénot, on June 13th, 1866, for pleurisy on the left side, of ten days' duration. At first the inflammation was limited, but it soon extended high up on the left side. Under treatment, the effusion seemed to diminish in amount, but it soon came on again, and to such an extent, and accompanied with such severe constitutional symptoms, that it was thought proper to perform thoracentesis. This was done on July 15th; no bad results occurred, and fifteen hours after the operation the inspired air extended to all parts of the chest on the left side. But from the 1st of August the patient had daily rigors, at first slight, afterwards more marked. As the general health became disturbed, and the fluid again increased, a second tapping was performed, Oct. 12th, and 2½ pints of thick pus were withdrawn; M. Guyénot then injected 30 grammes of tincture of iodine, and allowed it to remain. There were no bad results, and seven days after there was a clear sound on percussion over the upper two-thirds of the left side of the chest; whilst the patient seemed to be in a very favorable state, painful œdema made its appearance in the left leg; this soon went away, but appeared again in the other limb. Pus collected again in the chest, and the patient died on Nov. 15th.

"On post-mortem examination the pleura was found much thickened, and its tissue was hard and brawny; the left lung was pushed backwards against the spinal column, and was covered by false membrane; in the inferior vena cava and right popliteal veins were large softened clots. The whole venous system was filled with recent clots looking like currant jelly."

Dr. Guyénot thinks that the conclusion to be drawn from this case is, that it would have been better if the iodine had been injected after the first tapping. He thinks that the operation should be performed earlier than it usually is; and that the iodine injection (much more harmless than is generally supposed) is of more service when applied to serous than to purulent effusions.

ART. 34.—Case of Pleuritic Effusion; Paracentesis Thoracis; Recovery.

Under the care of Mr. HENRY EWEN, F.R.C.S., Long Sutton,
Lincolnshire.

(*British Medical Journal*, April 27, 1867.)

The following case is related by Mr. Ewen:—

"On March 27th, 1866, I visited Mr. J. F., aged thirty-two. He had been ill about three weeks when I saw him, and had been exposed to wet and cold, and much fatigue. His illness commenced with febrile symptoms, and pains about his left side, for which sinapisms and turpentine epithems had been applied. His countenance was anxious; respiration hurried; pulse 130. He had a troublesome cough, with copious muco-purulent expectoration; there was loud bronchophony below the clavicle on the right side. There was dulness on percussion throughout on the left side, and total absence of respiratory murmur. The heart was displaced and pulsating on the right of the sternum.

"March 31st.—The patient's condition was in all respects the same.

"April 9th.—There was no improvement. A grooved needle was introduced just below the inferior angle of the scapula, and between two ribs on the left side; and, as we expected, serum escaped along the groove. A trocar and canula was then introduced at the same spot, and fifty ounces of serum were drawn off, to the great relief of the patient. A compress of lint and adhesive plaster were applied to the wound. In the course of a few days the patient was able to leave his bed, and his improvement was gradual and steady; so that in the course of a few weeks he was able to resume his employment. I saw him in October, when he was on his way to Bicker, where he now resides, and at that time his health was fairly established."

ART. 35.—Whooping Cough.

Hospital Out-Patient Practice.

(*The Lancet*, April 27, 1867.)

It will be seen that the experience of hospital physicians is for the most part against the curative effects of any remedy in this complaint, although due credit is accorded to the relief which may be given by the use of certain drugs.

At St. Thomas's Hospital the usual prescription for a child of four years would be more or less as follows:—P.L. Solution of acetate of ammonia, half an ounce; spirit of nitric ether, one drachm; chloric ether, half a drachm; oxymel of squills, one drachm and a half; syrup of tolu, two drachms; water to two ounces: two teaspoonfuls every six hours. In addition to this medicine, of which the chloric ether is the permanent element, and the other constituents the variable, Dr. Gervis lays much stress upon the use of the chloroform liniment, directing that it is to be rubbed into the chest both anteriorly and posteriorly night and morning. Under this treatment, and with the usual directions as to diet and regimen, there is almost invariably considerable improvement within a week, and very frequently within ten days or a fortnight the "whoop" has quite passed off, although some amount of cough may linger for a little while, and require appropriate treatment. In more chronic cases, and where there is little or no bronchial disturbance, alum is substituted for the saline in combination with chloric ether; and, as in the other class of cases, the chloroform liniment is employed externally. If in cases where the catarrhal symptoms have subsided, but where the whoop remains, there should be much debility, the combination of quinine with the alum and chloric ether is very advantageous. If symptoms of cerebral irritation, with or without convulsions, should occur, Dr. Gervis has repeatedly obtained the greatest advantage from

small doses of morphia; and this both in cases where no remedial measures for this complication have been previously tried, and in others where antiphlogistic treatment—leeches, calomel, blisters—has been assiduously but unavailingly adopted.

Dr. Dickenson, of St. George's Hospital, thinks that antimonials, and all such remedies of the depressing class, appear to be injurious by lowering the patient without touching the disease; while the most that can be said for nitric acid and bromide of ammonium is that where they are given in small doses they do no obvious mischief. When the spasmodic cough is violent and threatening, as is apt to be the case in the later stages of the disease, medicines which act as sedatives may be given with advantage. Opium is sometimes useful under these circumstances, sometimes belladonna; hydrocyanic acid is better than either. The dilute acid of the Pharmacopœia, in minim or half-minim doses, according to the age of the child, is more effectual than anything else in diminishing the laryngeal spasm, which is often a source of danger.

Bronchitis and pneumonia, which frequently occur as complications, may be treated in the manner which is proper when these disorders arise under other circumstances, bearing in mind, as an extenuating circumstance, that the patient has, in the whooping-cough, to struggle against an exhausting disease.

With whooping-cough, therefore, we may limit our endeavors to meeting complications, and modifying unfavorable symptoms. Probably in most cases all that is necessary is to guard the patient from the chance of catching cold.

At King's College Hospital the simplest expectorants only are employed by Dr. W. S. Playfair. When the disease is more fully developed the bromides, either of potassium or ammonium (for there appears to be no marked difference in the action of the two salts), have been on the whole more frequently used than any other drugs. They have been generally given in doses of a grain for each year of the child's age, increasing the amount gradually if they seem to be of service. The next most useful remedy has been found to be belladonna, which is generally tried when the bromides have failed. In the more advanced stages of the disease, and in very feeble children, it has been found of much use given in combination with cod-liver oil and syrup of iodide of iron. Minute doses of hydrocyanic acid, generally combined with some preparation of bark, are sometimes serviceable. It seems to act best in the same class of cases as the bromides, but appears to be less generally efficacious.

At the Westminster Hospital Dr. Gibb prescribes the following formula:—An ounce of the dilute nitric acid, four drachms of compound tincture of cardamoms, and enough simple syrup to make a six ounce mixture. For an infant the dose is a teaspoonful every three or four hours, and for children from two to five years of age two or three drachms at the same periods. Occasionally he has found it convenient to add an ounce of glycerine, diminishing the mixture by an equal quantity of the syrup. This form of giving the acid in syrup is liked by the child and is well borne, and the good effects are very speedily visible in diminishing the severity and frequency of the spasms. According to the frequency of the paroxysms, together with their violence, severity, and duration, so is their soreness or uneasiness at the upper part of the larynx; this Dr. Gibb obviates by the topical use of a solution of nitrate of silver to the larynx (twenty grains to the ounce) by means of a curved brush.

The advantage of the nitric-acid treatment is that it can be given in the three stages of the disease. When the nervous element, however, is very strong, and there are manifestations of cerebral irritation, Dr. Gibb has substituted the bromide of ammonium for the nitric acid, in doses of from four to fifteen grains according to age, combined with ipecacuanha wine, and occasionally small doses of sulphate of zinc. Provided there are no dangerous or severe complications requiring special measures, it has been found that each of these two modes of treatment proves successful in curing the great majority of cases; and we are told it is somewhat unusual, unless when easterly winds are prevailing, for children at Westminster Hospital to remain longer under treatment than from two to five weeks. In very young children and infants, a few doses sometimes of the nitric-acid mixture are sufficient to effect a cure; and if the little patients are

carefully looked after, warmly clad, and properly fed, there is no recurrence of the disease.

When properly managed, Dr. Gibb considers pertussis to be a disease in every way amenable to treatment. The great effort of the physician should be to ward off complications, and quickly deal with them when they arise. In many hundreds of examinations Dr. Gibb has found the fact hold good, which he was the first to announce many years ago, that the urine in pertussis is almost invariably saccharine.

Dr. Julius Pollock, of the Foundling Hospital, says, no remedy appears to shorten in any way the disease, but the most useful treatment was found to be the following: To keep the room warm (56° to 60°); to give emetics at the beginning, and, when necessary, occasionally during the disease; to keep the bowels freely open; and to give the following mixture three times daily: Dilute hydrocyanic acid, one to two minims; ipecacuanha wine, five to ten minims; compound tincture of camphor, ten to twenty minims; water, half an ounce.

ART. 36.—Croup.

By Dr. F. PAULI, Wurtzburg.

(*Medical Times and Gazette*, April 13, 1867.)

Dr. Pauli defines true croup as a non-contagious local diphtheritis, usually appearing sporadically—a peculiar inflammation of the mucous membrane of the larynx and neighboring respiratory passages, followed by formation of false membrane, which produces contraction of the respiratory tract, with all its accompaniments leading to asphyxia and death. Under favoring conditions, especially in epidemics, general diphtheritis, a kind of blood-poisoning as in typhus, and highly infectious, may accompany it and increase its danger.

As to the diagnosis of croup, Dr. Pauli founds it on its etiology as well as on its symptomatology. The disorders he enumerates as most likely to be confounded with it are general diphtheria, angina tonsillaris, laryngitis simplex, œdema glottidis, tracheitis pseudo-membranacea, capillary bronchitis with false membrane, angina herpetica of Guersant, not yet generally known in this country, retro-pharyngeal abscess, foreign bodies in the windpipe, angina gangrenosa, and lastly, spurious croup or laryngismus stridulus. The grand diagnostic in this last case he makes the sudden accession of the attack, but in all cases he thinks it possible to arrive at an exact opinion as to the nature of the disease.

In treating croup our author declares against bleeding or blistering, and relies chiefly on emetics, especially after the membrane has begun to separate. Such substances as sulphuret of potassium and sulphate of copper he entirely rejects. Tracheotomy, with him, as with most continental authorities, is the favorite remedy; and, like most of them, he also prefers a peculiar instrument (which is described and figured) to the simple scalped usually employed in this country.

The indications and counter-indications of the operation may interest our readers, and we shall therefore give them at length.

Tracheotomy is indicated—

1. When the child is not too young—from six to ten is the best age—and it should usually be avoided when the child is under two years.

2. In strong healthy children.

3. In catarrhal croup and diphtheritic laryngitis, when general diphtheria is absent.

4. When there is no doubt of laryngeal impediment by false membrane, and ordinary remedies, especially emetics, have failed to remove it. Even then cyanosis should not be allowed to appear, but the operation should be promptly performed, especially when there is a strong tendency to sink.

5. Continued dyspnoea, with commencing asphyxia and absence of an attack of suffocation, affords the last and most pressing indication of tracheotomy.

6. Inflammation of the larger bronchi does not contra-indicate the operation, according to Guersant.

7. Diminution of the pulse during inspiration, showing a high degree of obstruction, indicates, in the absence of contra-indications, the immediate performance of the operation.

8. Albuminuria, as a result of simple *renal congestion*, indicates tracheotomy, according to Barbosa.

9. Violent attacks of suffocation indicate the operation, showing as they do the presence of considerable power and the absence of neuro-paralysis.

10. When the fever is sthenic, and the breathing not stertorous, the operation is indicated, nor do the opposite conditions altogether contra-indicate it.

11. The rapid approach of asphyxia as a result of local obstruction to the entrance and exit of the breath indicates immediate operation, according to Duhomme and Tonquet.

The operation is contra-indicated—

1. By decided general diphtheria along with coryza and great tenderness of the inflamed submaxillary glands, especially when they are much swollen.

2. In croup following measles or scarlatina, on the ground that the child has been weakened by the preceding disease, and that general diphtheria easily shows itself.

3. By delicacy of the patient, previous sickness, weakening treatment, and tuberculosis.

4. By extensive pneumonia, especially on both sides, and by emphysema.

5. By paralysis of the soft palate and uvula, whether complete or partial.

6. By the inefficacy of emetics, as indicating the existence of neuro-paralysis, or of very great weakness.

ART. 37.—*Diphtheria.*

By W. WATSON CAMPBELL, M. D., M.R.C.P.

(*Edinburgh Medical Journal*, February, 1867.)

Dr. W. Campbell has been led to communicate this paper by the fact that he has had much success in the treatment of diphtheria by the permanganate of potash gargle, the tincture of the muriate of iron, and port wine. He states that towards the end of his attendance on a patient, he caught the disease himself. He at once began with the iron and wine; and tried the effect of the gargle, which, though weak, seemed to have good effect, as the spots he had observed on his tonsils in the morning were rather smaller before bedtime. Next morning they were as large as ever, but under the influence of the gargle, more freely used, they all but disappeared before the night. This state of matters continued for about a week—the exudation disappearing when the gargle was used, and reappearing when it was stopped. At last he used it considerably stronger (gr. x to $\frac{3}{4}$ xx) and more frequently for a short time, and he was soon all right. Of twenty-three cases of diphtheria which occurred in Dr. Campbell's practice before he used the permanganate of potash gargle, ten died; and of twelve cases which have occurred since, none died.

ART. 38.—*The true First Stage of Consumption.*

A Lecture delivered at the Royal Infirmary for Diseases of the Chest, by HORACE DOBELL, M.D., Physician to the Infirmary, &c.

(*British Medical Journal*, February 23, 1867.)

Recent advances in our knowledge of the natural history and pathology of tuberculosis have made it essential to an enlightened treatment of the disease, that we should no longer delay making a radical change in the nomenclature of its several stages.

That which has heretofore been called the premonitory stage should, in my opinion, be at once recognized as the true first stage of consumption.¹

¹ I use the old name consumption, because I do not think we shall ever find a name better suited to the disease.

There is no doubt, that many scientific members of our profession have for some time past recognized that the commencement of consumption precedes the formation of tubercle. But, so long as the first stage of the disease is said not to begin till the formation of tubercle, so long will there be a misunderstanding, among the majority of practical men, as to the importance of any period by which this is preceded. The use of the word "premonitory" to the stage which precedes the formation of tubercle, is the most dangerous snare that could be laid for both doctor and patient. Is it not the proverbial failing of mankind to disregard mere warnings or premonitions, and to leave everything to the last? Even in the preparation for eternity, belief in the efficacy of death-bed repentance has always had a fascination for the human mind; and in the every-day affairs of life this spirit of procrastination still more universally prevails. Who, then, can be expected to stop in the midst of the absorbing pursuits of letters, politics, commerce, and society—to change his plans, and adopt a rigorous system of hygiene—merely because he is told by his physician that there are "premonitory" symptoms of disease? that is, so far as the patient can understand, signs that he may happen at some future day to suffer from disease.

This is a matter on which we must not be satisfied because, as pathologists, we ourselves understand what we mean by the terms we use. It is essential to our own action in practice that we establish a popular appreciation of the facts of the case. Unless our patients and their friends attach the same importance to the words in which our opinion is delivered as we do ourselves, we may as well hold our tongues; for our advice will be disregarded.

[The lecturer went on to show why the stage hitherto called by the "unalarming name premonitory" ought to be called in future the true first stage of the disease. He said:] The first point which I wish to put prominently before you, is the admitted fact that there is no possible means of ascertaining with absolute certainty, during life, the existence of a score or two of scattered tubercles in the deeper parts of the lungs. Yet the formation of one microscopic tubercle is proof of the setting in of what is now called the first stage of consumption. This alone ought to be a sufficient reason for changing the nomenclature. It is utterly absurd, when applied to practical medicine, to make a disease begin at a point at which a serious structural change takes place, but which it is impossible to identify with certainty during life. [He pointed out that the names premonitory stage and first stage, as now employed, can have no sense except upon the assumption that the deposit of tubercle constitutes the disease, and that thus a false pathology is doubly impressed upon both physician and patient.] What, then, is this first step in the important series of changes constituting consumption? Have we any signs or symptoms indicating its occurrence upon which we can rely with any certainty at all? [He then explained his views upon the nature and cause of tuberculosis, as already published; and said that, according to them, pure tuberculosis commences when fats properly acted upon by the pancreas first cease to pass in normal proportions into the blood; tuberculization, or the formation of tubercle, commences when albuminoid matter is abnormally seized upon for its fat elements.] It is to this stage of tuberculosis, beginning with the defective supply of pancreatized fats to the blood and terminating when the loss of fat in the blood has gone so far that the albuminoid materials are seized upon and tubercle produced, that I wish to confine my remarks to-day. It is this which, in my opinion, ought to be called the true first stage of consumption, because it is, in truth, the beginning of the disease; whereas the formation of tubercle is only an effect of the advance of the disease. It is, in fact, the earliest step in the decay of the body, the first yielding up of the tissues to destruction, as distinguished from their normal wear and repair.

[After dwelling at some length on the importance of learning to appreciate the peculiar aspect of consumptive patients, and to identify it under a variety of circumstances, he said:] I will endeavor to give a few guides to diagnosis, which while they have much to do with the production of the aspect, lie more easily within our grasp, and approach more nearly to the character of physical signs.

* *Tuberculosis; its Nature, Cause, and Treatment.* Churchill.

Three essential elements combine to give the key to all changes of consumption. Some indication of their existence is very easily detectable—loss of fat and of flesh, loss of strength, and disturbance of temperature and of excitability. They are easily understood if we keep in mind the nature and cause of tuberculosis—viz., defective or deficient supply of pancreatized fats to the blood. Under the head of loss of fat and flesh, he described and explained many sources of fallacy; and, under the head of loss of strength, he showed that it could be at once explained by a consideration of what are the sources of power in the organism, going at some length into the modern views of potential energy, and the relation of heat and mechanical force.

[After speaking of the distinctive diagnosis of tuberculosis, and of its relation to anæmia, he went at length into the treatment of the true first stage of consumption; showing, in the first place, what would be the proper curative treatment, if the arrest of pancreatic function were detected at its onset in its simplest form, and then describing at length the many difficulties which usually complicate cases when ordinarily presented to the physician. These difficulties were enumerated under the head of hereditary predisposition; the state of the mucous lining and absorbent system of the alimentary canal; susceptibility of consumptive persons to cold; the daily vicissitudes of life influencing the emotions; bad habits; unfavorable occupations and dwellings; and the imminence of tuberculization. In the majority of cases of the true first stage of consumption, tuberculization was just on the point of commencing when the patient was brought to the physician; and this danger must be provided against before anything else could be thought of.]

[After pointing out the proper time and mode in which to use cod-liver oil and pancreatic emulsion of solid fat, and the objects to be attained by their administration, he went into the subject of diet, exercise, air, the use of quinine and of iron. With respect to the latter, he said:] Let me caution you never to give iron to a consumptive person until you have effectually supplied all deficiencies of fat to the system; and never to give iron to an anæmic person till you have ascertained that there is no defect in the supply of fats to the blood.

[Climate, or change of air, was then treated at length; the objects of climatic treatment being divided under three heads.]

1. The restoration of healthy pancreatic function—i. e., the radical cure of tuberculosis.
2. The economy of fat and carbon in the organism and the protection of the lungs from undue oxidation—i. e., provisional protection against tuberculization.
3. Removal or prevention of catarrhal affections of the air-passages, of chills to the general surface, and of local congestions, &c.—i. e., the collateral treatment of tuberculosis.

It happens that the climates necessary for the second and third of these objects are utterly different from those required for the first; and that the climate required for the second object is frequently unfit for the attainment of the third. No wonder, then, that attempts to cure consumption by change of climate, undertaken without any clear appreciation of these important distinctions, should so often fail; and that when they succeed it should appear to be attributable to a sort of good luck. [He then explained these incongruities, showing what kind of climate was adapted to each of the objects in view; and concluded by an elaborate epitome of the chief points by which treatment should be guided in the true first stage of consumption.]

ART. 89.—*On Diabetic Phthisis and its Treatment.*

By BENJAMIN W. RICHARDSON, M. A., M. D., F. R. C. P., Senior Physician to the Royal Infirmary for Diseases of the Chest.

(*Medical Times and Gazette*, March 2, 1867.)

The first general symptom of this rare disease Dr. Richardson says is severe hectic, the hot stage of which is very extreme, and, instead of being followed by profuse sweating, is succeeded by great coldness of the surface of the body,

depression and copious elimination of urine. Difficulty of breathing is a marked symptom; cough is common, but is usually hacking only, and is unattended with any quantity of expectoration. Hæmoptysis, in the strictest sense of the word, he has not seen; but sputa of a rusty character in small quantities is frequent. There is little acute thoracic pain, but great oppression. Waste of bodily substance is extreme.

The physical signs are well marked. If the disease is seen early, patches of lung, like so many centres, give signs of dry crepitation; rapidly this crepitation extends over the whole lung. In one of his cases, during the last six weeks of life he could put the stethoscope over no part of the chest without hearing crepitation. The crepitation is distinctly that of early tubercle; it is wanting in the fineness of early pneumonic crepitation. In course of time there is some tendency to softening of tubercle, but this is very limited, and he has but once observed the actual formation of cavity. Death takes place, in fact, too early to give time for softening or absorption of tubercle; added to this, the diabetic condition seems to interfere with the process of softening, probably by the removal of water from the tissues.

Percussion over the chest where there is crepitation may be dull, but this sign is not essential.

Whenever there is clearly-developed diabetic phthisis the *prognosis* is inevitably bad, according to our present knowledge of treatment. Further, the prognosis is almost definite as to time: he has not seen a case that survived four months after the tubercular condition had been obviously present. From six to ten weeks is the common duration of the term of life from the period of severe and definitely recurring hectic.

After death the condition of lung is peculiar, and in three cases—the only cases he could be allowed to inspect—the condition was the same. The lungs were much shrunk and dry; they were grayish and darkly mottled in color; the tissue was filled with small dark tubercle, and there were a few patches of deep vascular congestion. There was no pleuritic adhesion, no serous effusion, no pulmonary cavity.

In every case of diabetic phthisis he has seen there has been disease of the base of the brain. In one case there was a growth of bone pressing upon the under surface of the medulla oblongata; in another case there was softening of brain substance, and in a third case there was disease of the vessels with thickening of the membranes and old adhesions. In one of these cases the patient had been under the late Dr. Baly for "acute meningitis," and his symptoms of diabetes followed that attack immediately. As he recovered from his acute illness he discovered himself diabetic.

The pathological relationship of diabetes and phthisis of the lung seems to him to be through the nervous system. That there is a functional and an organic type of diabetes; that the functional type is largely curable, and the organic absolutely incurable; and that the functional type is connected with a false digestion, owing to temporary interference with nerve action—these, he thinks, are facts which every scientific physician must be prepared to accept.

Some difference of opinion, however, yet exists as to the relationship of diabetes to disease of the brain. The progress of experimental inquiry has all been to the effect that lesion of brain-structure is an efficient cause of the diabetic condition; but Dr. Ogle has recently, in a most labored and able paper, maintained that the brain lesion sometimes found in diabetes is a result of structural change incident to the diabetic state, and a result instead of a cause. He does not propose to discuss this refined question now, but he would point out that when phthisis of the lung is developed during diabetes, the morbid change appears to be the result of what may truly be called innervation of the lung-tissue. That the change is not due merely to modification of the blood is certain from the fact that diabetes may exist or prove fatal without the occurrence of pulmonary phthisis or any sign of it. The occurrence of the phthisis also takes place, as he thinks experience shows, only when the diabetes depends on lesion at the base of the brain. It is fair to presume, therefore, that in such cases the nervous injury has so extended as to involve at their source the nerves from which the pulmonic structure is supplied.

Regarding treatment in diabetic phthisis. Dr. Richardson says he has tried various plans—oxygen by inhalation, oxygen by peroxide of hydrogen, special diet, change of air—and all to no purpose. Still there are certain points of practice which are worthy of note. He names two especially.

1. He is convinced that in this malady oxygen and its allies, chlorine, iodine, or their compounds, do harm : they increase elimination, and reduce accordingly.
2. He is equally certain that a diet restricted to albuminous products is utterly wrong both in theory and in practice. He believes that in functional diabetes a great deal can be effected by restricted diet, coupled with the method first suggested by Rollo, of giving with such diet ammonia and iron freely. He doubts, however, the practice of restricted diet in every case of organic diabetes, and in cases where there is the faintest indication of phthisis the restricted diet becomes, he feels sure, a positive evil. So soon as diabetic phthisis is established the general dietetic rules for phthisis alone are the rules, and the only rules, to follow. In the way of affirmative treatment the principles are—to sustain warmth of body, to check waste by opium and quinine, and to sustain by good food, especially by the free use of animal oil. In the next case he has to treat he will give animal oil, not by the spoonful, but by the half-pint at a time. He will give it as the Esquimaux takes it, and for the same reason, to sustain the lost caloric in his case too rapidly carried away by the surrounding cold, and in the case of the diabetic man by the excessive formation, dissolution, and elimination of sugar. To this last remark he would add that, in respect to the treatment of organic diabetes altogether, there is more hope in the free use of animal oil than in any other remedy.

ART. 40.—*Treatment of Hay-Fever.*

By W. ABBOTTS SMITH, M. D., M. R. C. P., &c.

(*On Hay-Fever, Hay-Asthma, or Summer Catarrh.*)

With respect to the effects of medical treatment, about which nearly every writer on hay-fever appears doubtful, Dr. Smith sees no reason for thinking that the symptoms may not be generally very much mitigated. He believes that, except in cases where the predisposition is strongly marked, or where the affection has been allowed to get too complete a hold upon the system, careful avoidance of the exciting causes and judicious treatment will succeed in eradicating the disorder, or, at all events, reduce the attacks to a minimum, whether as regards their severity or their duration. In treating hay-fever, as in treating other affections, it is worse than useless to attempt to find a specific remedy for all cases, or to treat all by the same medicines. The treatment may be divided into two parts—viz., the prophylactic, and the curative or palliative. The former will consist chiefly in the avoidance of the exciting causes of the disorder, such as the aroma of ripe grass or newly-made hay and of strong-smelling flowers, &c.; protection from the heat of the sun, especially about mid-day, and only a moderate amount of out-door exercise. Removal to the sea-side is sometimes found beneficial, especially in those cases in which the febrile or asthmatic symptoms predominate. When the affection has actually made its appearance, warm fomentations, with either water or decoction of poppies, will relieve the swelling, pain, and irritation of the conjunctivæ and eyelids. Glycerine or cold cream should be applied occasionally to the interior of the nostrils by means of a camel-hair brush or a feather. The frequent inhalation of the steam of hot water (either simple or medicated), and of different sedatives, in the form of atomized fluid or spray, will be found valuable in relieving the unpleasant tickling sensation felt in the mucous membrane of the nasal and other air passages. Small pieces of ice, dissolved at frequent intervals in the patient's mouth, often avail more than anything else in obviating the heat, dryness, and tickling sensation felt in the roof of the mouth, the palate, and fauces. The following remedies are the best for internal administration: lobelia, in full doses of the tincture, three or four times a day; the preparations of opium, especially the tinct. camph. co.; and the other principal sedatives and antispasmodics. Tobacco-smoking.

sometimes effects wonders in diminishing the severity of the paroxysms. Bromide of potassium, or of ammonium, in five or ten grains, or even larger doses, according to the age of the patient and the intensity of symptoms, given in infusion of quassia or gentian, will prove efficacious in cases where the irritability of faucal or bronchial is extreme. When the patient's constitution requires invigorating treatment, quinine, quassia, and gentian, or the preparations of iron, zinc, and arsenic, and other mineral tonics, may be administered. In all cases it will be found judicious to prescribe an occasional saline cooling aperient. Lowering depletives must be carefully shunned. The diet should consist of nutritious, easily-digested food, with pale ale, sherry, or claret at lunch and dinner. All vegetables, excepting potatoes or salads, should be avoided, as well as tea, for which coffee, cocoa, or chocolate may be substituted.

(c) ALIMENTARY SYSTEM.

ART. 41.—*Vomiting.*

By THOMAS KING CHAMBERS, Consulting Physician to St. Mary's Hospital.

(*The Indigestions or Diseases of the Digestive Organs Functionally Treated.*)

The following case illustrates the good effects of opium in checking the vomiting of consumptives:—

"B.'s Anonyma, aged about twenty-five, was placed under my care in March, 1861. She had a large vomica in the upper lobe of the left lung, and the greater part of the lower lobe impervious with tubercles; but she had suffered very little from pulmonary symptoms, would not hear of her being in a consumption, and talked about going to dances in a low dress as soon as she could get about again. But she was utterly prostrated to her bed by the constant vomiting of all she ate, and retching when she ate nothing. The bowels were obstinately costive, and she had taken as much as twelve grains of extract of colocynth without effect.

"I gave her opium, beginning with a grain, and augmenting it to six grains daily. Then the vomiting ceased, and she recovered her appetite and fondness for luxurious living. She ate twelve shillings' worth of strawberries (in April) daily, and an immeasurable quantity of brown-bread ice. Her bowels recovered their functions, and she passed naturally colored and formed stools in spite of the opium. She slept naturally and easily without excess or stupor.

"She died in the summer, but was able to keep off her vomiting to the last with the help of the opium. I think, however, she increased the dose. So that her end was made much more easy, and probably postponed by it."

ART. 42.—*Quinsy.*

(*The Lancet*, March 30, 1867.)

The following is a brief report of the treatment adopted in cases of quinsy by physicians at several of the metropolitan hospitals:—

Westminster Hospital.—Two remedies only are, in Dr. Anstie's experience, of real value. If the case be seen early—i. e., within forty-eight hours of the occurrence of decided pain, before the swelling has become definite in form, and more especially if there has been no shivering and the febrile action is but slight, the application of strong local astringents is almost certainly curative. The rough way of using this treatment is to order the patient to gargle every half hour with a solution of alum—twenty grains to the ounce. A more precise and effective use of the same astringent can be made by throwing such a solution, in the pulverized form, against the affected part. Another effective mode of local adstriction is the application of tincture of sesquichloride of iron on a sponge carried by a whalebone, which may be firmly pressed against the part. The other remedy besides local adstriction is the use, in suitable cases,

of purgative medicine. If (and only in this case) there is reason to think the bowels are loaded, a brisk purge of any kind which does not produce exhausting serous exhalation will frequently give great and speedy relief.

If the disease has plainly gone on to the formation of pus, the above remedies are useless, and will only worry the patient. Our attention should then be directed, Dr. Anstie believes, to soothe the pain, and to keep the swelling within bounds, while we also support the patient's strength. Hot fomentations and poultices should be applied around the throat, the patient should gently inhale the steam of boiling water, and he should be given strong beef-tea and small quantities of wine or brandy every four hours. In nine cases out of ten the pus may be left to find a natural opening, and only the occurrence of serious mechanical dyspnoea, or the appearance of a tendency to spreading of the suppuration, should induce us to use the lancet.

University College Hospital.—Dr. Wilson Fox treats ordinary cases of tonsillitis which present themselves within the first forty-eight hours of the invasion of the disease with a brisk mercurial cathartic, followed by a saline aperient draught. In cases which have run a course of even three or four days, the same plan is found by him to be beneficial, if the bowels have not been previously acted upon. Even in the early stages, unless the use of gargles gives much pain, he employs the following formula for this purpose: Chlorate of potash, three drachms; nitrate of potash, half an ounce; glycerine, half an ounce; water, eight ounces. When seen early, this course is, in his experience, almost invariably sufficient to cut short the disease in a few days' time; and he scarcely recollects an instance where it has been adopted in which abscess has ensued. In cases of very severe swelling, he has occasionally found scarifications useful; but he regards these as quite exceptional. If ulceration supervenes, either upon the tonsils or on the fauces, the solution of nitrate of silver, of the strength of fifteen grains to the ounce, is, in his opinion, the best remedy; and it may be advantageously applied to the tonsils, when suppuration is not present, in cases where the swelling lasts longer than five or six days. Dr. Fox strongly deprecates the use of the solid nitrate of silver in the early stages of the disease.

St. Thomas's Hospital.—In treating cases of acute quinsy among the out-patients, Dr. Clapton generally prescribes a dose of castor oil or of calomel and rhubarb to be taken immediately, five or ten grains of Dover's powder at bed-time, and a mixture of citrate of potash, spirit of nitrous ether, and syrup of poppies every four hours; frequent inhalation of the vapor of hot water, and the application of linseed meal and mustard poultices. In case of considerable extension of the disease to the pharynx, tongue, and other neighboring parts, with much superficial soreness, occurring as it commonly does in patients who are very feeble or strumous, a mixture of chlorate of potash, hydrochloric acid, and decoction of bark is preferred, and a little hot wine-and-water recommended to be taken frequently. Stimulating gargles have generally been found by him to be far more hurtful than useful in the early stage, as causing great increase of irritation and much needless pain. Washing out the mouth and gently gargling with glycerine and warm milk-and-water, however, will be found to give great relief.

Suppuration is found to occur in about half the cases, but incisions are very rarely deemed necessary. When a patient has been the subject of repeated attacks of acute quinsy ending in suppuration, the plan of applying a liniment of thin extract of belladonna just below and behind the ramus of the jaw has been found a most excellent one, rapidly relieving the pain and intense irritation, and in some instances cutting short the progress of the disease almost at once; but, for obvious reasons, this plan cannot be commonly adopted amongst out-patients. As soon as the acute symptoms have subsided, either by resolution or by the formation and discharge of pus, tonics, as quinine or the tincture of perchloride of iron, acid astringent gargles, and as nutritious a diet as can be procured, are ordered, as the majority of patients of this class are compelled to expose themselves to fresh sources of cold as soon as convalescent, and thus a relapse of the inflammation (mostly on the opposite side of the throat) may generally be expected.

St. Mary's Hospital.—The treatment Dr. Broadbent has found most useful in quinsy is as follows :—Demulcent gargles, such as weak linseed-tea or decoction of althea, used warm at short intervals, and inhalation of steam ; the addition of hyoscyamus to the gargles has seemed to be useful. Poultices round the throat, or, in the early stage, a cold-water bandage or spirit-lotion. When suppuration has taken place or the acute stage is passed, an astringent gargle—e.g., the compound solution of alum in infusion of roses—is substituted for the mucilaginous applications. If there is great œdema about the soft palate, the parts are scarified, unless the jaw is closed so as to prevent access ; and where necessary, abscesses in the tonsils are opened. A saline purge is given if the bowels are confined, and in most cases from twenty to twenty-five minims of compound spirit of ammonia in compound infusion of gentian or other bitter infusion.

In incipient sorethroat, of whatever kind, Dr. Broadbent has for some time given small fragments of guaiacum resin—a piece to be kept in the mouth till dissolved three or four times a day. The good effects have been very evident, more particularly in superficial inflammation of the mucous membrane ; but tonsillitis has apparently been arrested, and in patients subject to quinsy attacks have been averted.

Charing Cross Hospital.—Dr. Headland prescribes, during the continuance of fever and swelling, half-drachm doses of antimonial wine with a magnesia purge thrice daily. The patient is restricted to liquid or very soft food. A linseed-meal poultice is kept round the throat by night, and several rolls of warm flannel replace it by day. When suppuration is approaching, Dr. Headland thinks it seldom advisable to interfere with the lancet. In most cases the abscesses discharge best if left to themselves. Only in those rare cases where suffocation is threatened is it necessary to resort to free incisions of both tonsils. During convalescence quinine is given, a supporting regimen is ordered, with a somewhat free allowance of stimulants.

In chronic enlargement of the tonsils without fever Dr. Headland gives various tonics, but relies chiefly on cod-liver oil combined with iodide of iron. Among local remedies the alum gargle is preferred, but in obstinate cases touching with solid nitrate of silver is resorted to.

ART. 43.—*Compression of Epigastrium by Shoemakers.*

By THOMAS KING CHAMBERS.

(*The Indigestions or Diseases of the Digestive Organs Functionally Treated.*)

Dyspepsia, such as Dr. Chambers has attributed to the pressure of stays in women, are common in one class of men—namely, cobblers ; arising in them from a cause of physiologically exactly the same nature, the compression of the epigastrium by the last on which the boot or shoe is worked.

The following case shows it in an incipient stage :—

Joseph J. D., aged nineteen, just out of his apprenticeship to a shoemaker, was admitted to St. Mary's Hospital under the care of Dr. Chambers, October 13, 1861. He complained of weakness in the wrists, which became painful after work, and of constipation ; he spoke also of pain in the chest, which induced Dr. Chambers to examine his lungs. These, however, were found healthy, and he had no cough. On further inquiry, it appeared that the pain he spoke of was in the epigastrium, and was increased by pressure, and by taking food. Rest and quinine improved him rapidly, so that he was made an out-patient within a week.

The next case exhibits a further stage of the same condition :—

Philip B., aged thirty-six, shoemaker, was admitted into St. Mary's, under the care of Dr. Chambers, November 9, 1855. He had not been in health for nine years, suffering from what he called "spasms in the chest"—that is, pain across the epigastrium, and irrepressible paroxysms of belching. The pain in the epigastrium was always increased immediately after taking food, and was accompanied by a great secretion of gas. When he could get off some of this by

eructation the pain somewhat abated; but the eructations would sometimes continue as long as three hours. During the last nine months he had become emaciated, and felt a good deal of universal debility. The urine was smoky-colored, of the specific gravity only of 1.010, though natural in quantity, and free from albumen; the sleep was broken; the appetite good. He stated that unless he took purgatives his bowels would remain unopened for a fortnight together. Philip's first medicine was bismuth and iron. But the iron did not seem to agree with him; he got into a feverish catarrhal state, and had sore-throat. During this attack he was kept in bed, had six leeches, and afterwards a blister applied on the epigastrium; he took a quarter of an ounce of castor-oil occasionally. All this time, however, he was gaining flesh; so that between the 27th of November and the 10th of December, he had gained four pounds in weight; and the urine was increasing in specific gravity, so that by the 1st of December it was 1.028, but was a little cloudy from lithates. After the acute febrile symptoms had abated he received much comfort from the following draught three times a day:—

R.—Misturæ rhei co., ℥j.
Tincturæ opii, m.v.
Acidi gallici, gr. v.

He left on December 13th much improved in health and spirits.

In this instance it will be seen that the evil was much more ingrained by time, and the symptoms were worse, and more difficult of relief, in proportion to the greater time it has lasted. The intention of the draught was to soothe the over-sensitive nerves with the opium, at the same time that the gallic acid astringed the mucous membrane, and restrained the over-secretion of mucus, which the patient's general catarrhal diathesis otherwise displayed rendered probable to be present in the stomach. The rhubarb, Dr. Chambers thinks, was designed to prevent constipation arising from the other ingredients. As a rule, Dr. Chambers likes aloes best for that purpose in gastric cases, and he does not know why he ordered rhubarb here.

ART. 44.—*Hepatic Abscess simulating Abdominal Aneurism.*

By WILLIAM MOORE, M. D., M.R.I.A., Physician to Mercer's Hospital; Vice-President of the College of Physicians, and Lecturer on Practice of Medicine, &c. &c.

(*The Medical Press and Circular*, January 23, 1867.)

The details of the following case are given by Dr. Moore:—

Maria N., aged twenty-eight, a dressmaker, of admittedly intemperate habits, was brought to the hospital in June last. About ten days before she applied for admission she felt what she described as a "throbbing lump" in her stomach. She also suffered from palpitation, short dry cough, constant pain in the back, which radiated towards the stomach, from rigors, night sweats, obstinate vomiting, especially after eating, and from total loss of appetite.

On examination, we found a tumor about the size of a hen's-egg occupying the epigastric region. This tumor pulsated, and on applying the stethoscope over it a bruit could be heard which was lost in the upright position. Moreover, place the patient in what position you pleased, the pulsation was continuous. To test this we made the patient get on her hands and knees, still the pulsation remained, and this is a point worth special attention, for, as I hope to show by-and-by, the presence or absence of pulsation in this position is an important link in the differential diagnosis between hepatic abscess and abdominal aneurism. However, to resume, there was dulness over the hepatic region generally, and over the anterior and inferior region of the right side, where respiration was indistinct. The menstrual functions were regular, and the bowels free. After the patient had been a few days in hospital jaundice supervened. Now, the treatment we employed in this case was the effervescing saline mixture, with hydrocyanic acid, with the view of relieving the great irritability of the sto-

mach. Ice was applied over the tumor, which was afterwards painted with a strong tincture of iodine, whilst five-grain doses of iodide of potassium were given in decoction of taraxacum three times a-day. Under this treatment the tumor, at the end of a month, had sensibly diminished, and the pain in the back and other symptoms had abated. At the end of six weeks the tumor could not be felt, and the girl's health was so much improved that she left the hospital, a faint tinge of jaundice only remaining.

Now, this patient was sent to the hospital supposed to be suffering from abdominal aneurism, and, I confess, the first look at the case inclined me, as it did several gentlemen to whom I showed it, to arrive at the same conclusion, but a more careful examination shook this belief. As regards the pain in the back and jaundice, both these general symptoms might tally with abdominal aneurism; so might the vomiting and irritability of the stomach if the enlargement of the vessel came in contact with that viscus; but, in addition, we had rigors and night sweats, symptoms never found necessarily associated with aneurism, and which were of special value as pointing to the formation of matter somewhere.

Next, as to the especial character of the tumor itself. It was about the size of a hen's-egg, slightly flattened, and occupied the situation usually allotted to aneurisms of the abdominal aorta, whilst its pulsation was diastolic and eccentric. These special points, for so far closely resembling the signs of aneurism, tended to embarrass the diagnosis, and the presence of a bruit in the supine position, which became lost in the upright, still further obscured the case.

But there was one point which came to our relief, and that was the partial modification of the impulse by pressure on the tumor towards the right side. If with this important sign we had found absence or diminution of the impulse when the patient was placed on her hands and knees, the diagnosis would have been comparatively clear, for you will readily see that when a patient is placed in this position, an hepatic abscess or other non-adherent tumor falls forward from the aorta, and thus pulsation is lost, but in this instance there must have been some adhesions between the under surface of the liver and the great vessel which afforded a medium of pulsation. After some time, and giving due weight to the character of the constitutional disturbance in general, and to the modification of the impulse by pressure in particular, we arrived at the conclusion that the case was one of hepatic abscess, occupying the left lobe of the liver.

You may naturally ask me how did the contents of the abscess, which were of no trifling amount, disappear so stealthily as they did, and so favorably, and is this the usual way in which hepatic abscesses are disposed of?

The abscess may make its way through the thoracic or abdominal wall; in the latter case it usually points below the ensiform cartilage of the sternum, or it may point through an intercostal space, and eventually burst.

The abscess may burst to the stomach, and if so the rupture is followed by purulent vomiting or pus in the dejections or both. Should the abscess open into the intestinal canal, the symptoms are usually ill-defined, but the patient's attention may be arrested by the sudden subsidence of pain, and rupture into the peritoneum is in almost every instance followed by speedy dissolution. On the other hand, should the pus make its way into the bronchial tubes, this contingency is usually preceded by symptoms of pneumonia, as dulness on percussion, bronchial respiration, and rusty sputa, and when the rupture *actually* occurs copious purulent expectoration follows, even pure bile may occasionally be spat up. Again, should the right pleural cavity be the receptacle of the abscess, the symptoms of ordinary empyema are set up, but rupture into the pericardium is an event of very rare occurrence, and when it has occurred, has been attended with a rapidly fatal termination.

Now, in the case before us, we have no positive proof that the abscess took any of these courses above mentioned; it might have opened into the intestinal canal or bile duct, and thus have been disposed of, but if so, I am inclined to think there would have been some more sudden and decided remission in the symptoms than what took place, and I think the pus in the dejections could scarcely have escaped us.

To be plain with you, I am at a loss to account for the exact *modus operandi*

by which so gradual and favorable termination was brought about in this unpromising case. Frerichs tells us that under favorable circumstances the suppurative process is arrested, the pus undergoing a retrograde metamorphosis, and thus the abscess gradually is reduced in size and cicatrizes, the symptoms steadily disappearing, and this seems to me the most feasible way to account for the disposal of the abscess in the present instance.

ART. 45.—Case of Enlargement of the Spleen after Ague: with Clinical Remarks.

By Dr. MURCHISON.

(*British Medical Journal*, February 16, 1867.)

The chief interest about the following case, is its having furnished the text for some very good clinical remarks by Dr. Murchison, of which we here subjoin a summary:—

William D., aged forty-nine, laborer, was admitted into the Middlesex Hospital, December, 21st, 1866. His mother died of dropsy; father dead; family very healthy.

Previous History.—He had an attack of ague when a child, a second attack when thirty years old, and three others since, all tertian, except the last, which occurred three years ago, and was a case of dumb ague. The attacks were all slight; he went to work in the intervals between the shivering fits. He was treated by quinine. Five years ago his left leg became ulcerated over an old fracture of the tibia of five years' standing, which had, however, given him no trouble after the bone had united. Three years ago he was in Guy's Hospital for abdominal dropsy.

Present Illness.—He was in his usual state of health until December 14th, on the evening of which day he was attacked with general pains of a very severe character; headache; repeated and short shiverings; thirst; complete loss of appetite. Bowels regular. These symptoms continuing, he was sent to the Fever Hospital on the 15th. On the following day the rigors continued until the afternoon, when they left him to a great extent, without being followed by heat or sweating. These symptoms since gradually became less and less, and he now felt perfectly well.

State on Admission.—The patient was stout; complexion sallow; skin warm; temperature $97^{\circ}.4$; abdomen large; girth at umbilicus 39 inches, and two inches above this 40 inches, in the lying posture. There was a healthy ulcer, healing, over the middle third of the left tibia, with œdema of the leg and foot below. The pupils were moderately dilated. The tongue was rather florid, covered with a thin white fur; appetite good; bowels opened twice to-day, loose; pulse 72. Heart-sounds muffled; abruptness of diastole. Respiration 16. He had a slight cough. Percussion over the back was rather wanting in resonance. The breathing in the left back was not good; on the right very distinct; in front of the chest, normal. The abdomen was large, and generally tympanitic, more or less, except over a large part of the left side, where a hard and smooth tumor was distinctly felt, extending within four inches of the mesial line, and measuring in the infra-axillary line $6\frac{1}{4}$ inches from the eighth rib to within one inch of the crest of the ilium. Liver-dulness extended from the lower border of the fifth rib in the vertical line of the mamma; below, the limit of dulness could not be made out definitely. On microscopical examination of the blood there was found none or little abnormality as regarded consistence or globules. The urine was clear, of normal color; specific gravity 1021; no albumen; it effervesced slightly on addition of nitric acid when heated.

The tumor above referred to corresponded to the region of the spleen, which measured perpendicularly, in a line with the anterior spinous process of the ilium, seven inches; and two inches behind this, in a perpendicular line also, eight inches, when the patient was lying on the right side. When lying on the back, the anterior angle of the tumor was in a line with the left nipple, and four inches from the umbilicus.

He was ordered to take the following mixture three times a day: *R* Sulphatis ferri, quinae sulphatis, ana gr. j; acidi sulphurici diluti, mx ; strychniae sulphatis, gr. $\frac{3}{5}$; haustus menthae piper. Zj . *M.* And to have ointment of iodide of mercury rubbed in over the enlarged spleen.

The patient improved considerably, and the tumor had diminished in size notably, when, on the 23d, he had to be discharged for misconduct.

Clinical Remarks.—Dr. Murchison prefaced by stating that, when examining the spleen, it should be borne in mind that the long axis of the organ is nearly horizontal in the living body, not vertical as in the dead, although its anterior extremity is little more depressed than the posterior. Enlargement of the spleen is usually uniform, and the fissures which normally exist in its anterior margin become exaggerated; but this nodulation does not indicate malignancy.

Enlargement of the spleen may be simulated by several morbid conditions, of which the following are the principal:—

1. A cancerous tumor of the large end of the stomach, especially if there be no vomiting, as in a case recorded by Dr. Bright in his memoir on *Abdominal Tumors*. This condition may be recognized by the general symptoms of cancerous cachexia, and chiefly by the occasional absence of, and the variation in, dullness on percussion.

2. Enlargement of the left lobe of the liver may be made out by the swelling being continuous with the liver, and by the derangement of the hepatic functions.

3. An enlarged and movable kidney is known by the greater degree of mobility of the mass, and by its going downwards and backwards when replaced. A more important distinction is this: that, if the patient be examined frequently, a tympanitic intestinal note will be sometimes obtained on percussion.

4. An ovarian tumor may be diagnosed by the history of the case, by the growth of the mass from below, by its having less uniformity and less density, and by a vaginal examination.

5. Accumulation of feces in the descending colon and the left part of the arch of the colon is mainly distinguished by means of careful percussion, which shows an absence of uniform enlargement upwards in the splenic region, and by the sensational palpitation, by a doughy feel, characteristic of this condition. The administration of purgatives and injections will, besides, clear up all doubt.

6. In cases of omental or retro-peritoneal tumor, which may be tubercular or cancerous, there is absence of enlargement upwards beneath the ribs.

7. Aneurism of the aorta, as in a case which occurred lately in the Middlesex Hospital, may be diagnosed by the presence of pulsation and aneurismal *bruit*, in the great majority of cases. There will also be indications of pressure on the vertebræ and the neighboring organs, producing, in some cases, paralysis of the lower extremities or of some of the spinal nerves.

8. In chronic abscess of the abdominal parietes, as in a case recorded by Dr. Bright, the main points of distinction are the more superficial character of the swelling and its less defined outline.

When it has been clearly made out that there is actual enlargement of the spleen, the next point is to ascertain, if possible, the cause of this enlargement. Now there are six main causes giving rise to an increase in the size of the spleen:

1. A mechanical impediment to the systematic circulation, as in heart-disease, or to the portal, as in cirrhosis and other forms of chronic atrophy of the liver. In heart-disease, especially when the tricuspid and mitral valves are affected, the spleen enlarges in the earlier stages; but when the complaint is chronic, the thickening of the capsule and the hypertrophy of the fibrous matrix prevent any great increase in size of the organ.

2. Diseases from blood-poisoning generally give rise to splenic enlargement—*e. g.*, ague, typhoid, remittent and scarlet fever, and pyæmia. This is recognized by the symptoms of the primary disease, and the subsidence of the enlargement on the disappearance of the primary disease.

3. Simple hypertrophy, which occurs under two forms: (a) ague-cake; (b) simple hypertrophy in leukæmic persons. The former of these is made out by the history of the case, the patient having had repeated attacks of ague or lived in an ague country; and the white corpuscles of the blood are only slightly in-

creased. Ulcers of the legs are very common in such cases, and the fact was well known so far back as Aretæus. The probable explanation of their occurrence is, that wounds do not heal readily in individuals with enlarged spleen, and, from slight causes, troublesome sores may be produced. The result of treatment also points to the nature of the case. At Netley Hospital, a combination of the phosphates of quinine, iron, and strychnine, has been found to reduce the size of the spleen, coupled with the rubbing in of the ointment of the red iodide of mercury. In leukæmic enlargement, the spleen attains a very great size, sometimes filling up the whole abdomen; and it has been known to weigh after death, in such instances, eight or ten pounds. The characters of anæmia are then well marked. When examined under the microscope, the blood is found to contain an exceedingly greater number of *white* than of *red* corpuscles, while the patient is liable to hemorrhages, chiefly nasal and buccal; sometimes, however, pulmonary and intestinal. Ascites is often present, and diarrhœa also.

4. The spleen may be affected with waxy or amyloid degeneration. This may be recognized by the physical signs of a similar disease existing in the liver. The urine also presents characters of importance, because the kidneys are also affected: thus, the patient passes a greater quantity of urine than normal, containing a considerable amount of albumen, while there is no dropsy, past or present. Sometimes, some of the cast-off renal cells give an amyloid reaction. The patient is troubled with vomiting and purging; the latter symptom being due to amyloid degeneration of the coats of the intestine. There is generally a history of syphilis, or of caries of bone, or of some long-standing purulent discharge.

5. There may be embolism, gangrene, or tumors of the spleen. In the embolism, the splenic enlargement is seldom very great, the organ rarely projecting beyond the margin of the ribs, and there are pain and tenderness on pressure; valvular disease of the heart may be also made out. In gangrene of the spleen, as after typhoid fever, there is very rapid sinking.

Lastly, cancer, hydatids, and occasionally tubercle, may cause enlargement of the spleen. Cancer of the spleen is rarely primary. Hydatids, when occurring in the spleen, are generally but not always secondary to hydatids in the liver. They are recognized by the want of uniformity of the swelling, which bulges out in one direction, and by the absence of all symptoms in the early period of the history.

ART. 46.—*A Case of Ascites Treated successfully by Iodine Injection.*

By M. DE DARVIEU.

(*Mémoire de la Société des Sciences Médicales de Lyon, 1865-66.*)

The subject of this report was a man of forty years of age, thin, though of a good constitution. He came under the care of Dr. Guynénot on October 6th, 1865, and was then suffering from ascites. The following is the history of his disease:—

He had led a regular life, and had always been temperate in his habits. In the month of March, 1865, he was, when in full health, attacked with slight rigors, and for three days could not keep himself warm.

He was afterwards affected with nausea and loss of appetite, frequent desire to defecate without passing much at the stool, smarting of the anus, and pains in the epigastrium. The phenomena did not continue long, but in the course of fifteen days the abdomen enlarged considerably. When first seen by Dr. Guynénot there were manifest signs of abundant abdominal effusion, and all the symptoms of ascites were present. The patient's countenance was pale, and his eyes were to a slight extent encircled by dark rims. The skin was cool and dry (it was learned that perspiration had been suppressed for a long time). The urine was scanty and limpid. Heart's action was normal, no blowing sound could be heard in the veins of the neck. The breathing was free, although the man had a slight cough, accompanied by expectoration of a frothy, sero-mucous fluid, and auscultation revealed some dispersed mucous râles. There was no emphysema. The ankles were slightly cedematous, but the patient states that

the swelling did not appear until two months after the commencement of the ascites. The urine was frequently examined, but no albumen was ever detected.

In diagnosing the nature of this disease, Dr. Guyénot at once rejected albuminous nephritis, tubercular disease of the mesenteric glands, and impeded circulation, as causes of the dropsy. Nor was it likely to be the consequence of anemia or any particular blood-disease favoring serous effusion; for the man's history would not have supported such theories, and the dropsy was confined to the abdominal cavity. At first sight the ascites seemed to have been produced by cirrhosis of the liver, but against this view were the facts that the patient was a temperate man, and had never partaken but sparingly, and at long intervals, of alcoholic drinks, the absence of those frequent bleedings which are met with in liver disease, and the freedom of the urine from any ammoniacal deposit. The subcutaneous veins on the front of the abdomen were, it is true, enlarged; but Dr. Guyénot holds that this supplementary circulation was not produced by the development of that vein which, according to MM. Robin and Sappey, carries the blood of the vena porta into the epigastric vein, and thence into the vena cava inferior, but was, on the other hand, formed by a direct anastomosis between the small veins of the anterior thoracic wall and the epigastric vein, by which anastomosis the blood of the lower limb is carried into the superior vena cava, the lower vena cava being compressed by the intra-peritoneal effusion.

After a careful consideration of the history of the disease, it was diagnosed as ascites consecutive to sub-acute peritonitis. The primary inflammatory phenomena had passed away, and nothing remained but the dropsy.

Treatment.—Diuretics, and drastic and saline purgatives were given by turns, but by the 26th of October the abdomen had increased very much in size and tension. On that day tapping was performed, and an examination made under the more favorable conditions. Nothing positive, however, was made out. There flowed away through the tube a lemon-colored serous fluid, which contained some small whitish clots, the presence of which proved that inflammation of the abdominal serous membrane had been an element of the disease, and thus the diagnosis was confirmed. Towards the end of the operation the patient was placed upon his side, and as much fluid was withdrawn as could possibly be pressed out while the man was in this position. The following injection was then introduced into the peritoneal cavity:—

Tincture of iodine	30 grammes
Iodide of potassium	6 “
Distilled water	150 “

This was left in. In a few minutes the man was seized with acute abdominal pains, and had a strong erection. When visited in the evening, his face was pinched, the pulse very small, 180; on the same morning it was 80. The pains still persisted, although they were not so severe. The temperature was not excessive. No pain in the epigastrium; no very great hunger or thirst; no feeling of heat or acidity in the gullet; no nervous disturbance; in fact nothing that could be referred to iodism.

On October 28th the pains had ceased; the pulse was 110. No symptoms of iodism.

On November 13th no bad signs were present. The pulse was 80. Abdomen was painless on pressure. Bowels had not been moved since the day of operation.

On November 15th the patient was discharged cured. He was seen again on the 25th, but there were no signs of any reappearance of the ascites.

At the date of the reading of this memoir, late in the year 1866, the patient was quite free from disease.

ART. 47.—*On the Treatment of Saturnine Neuroses by Cold applied Internally and Externally.*

By M. MONNERET, Paris.

(*Gazette des Hôpitaux*, No. 43, 1867.)

In an interesting lecture delivered at the Hôpital de la Charité, M. Monneret stated that he had ceased to treat the nervous affections caused by lead-poisoning by evacuants. The principal symptoms he considers are due to affections of the nerves both of motility and sensation, and he thinks that the rational treatment of these is the application of cold *intus et extra*. Cold influences very actively the nervous system, either directly or through the capillaries, and modifies the secretions. M. Monneret gave the following details of his treatment of lead-poisoning at the Hôpital de la Charité, where a great number of cases of this affection are admitted:—

“As soon as the patient comes under my notice I prescribe for him some cold drink, lemonade, for example. This drink is very agreeable, it is not rejected, and is adapted to the patient's habits, whether temperate or the reverse; occasionally I add some wine. At the same time I order three cold-water enemata to be administered to the patient every day; it is necessary that the injections remain as long as possible in the rectum. In addition to the cold drinks and injections, the patient is subjected to the water-cure twice a day, morning and evening, and sometimes again at noon; in some cases douches with large or small jets are applied, but these should not last longer than a minute. The douches stimulate the peripheral bloodvessels and cause them to contract, the course of the blood is arrested, the vessels afterwards dilate, and even enlarge, the skin is reddened, sometimes the activity of the glands is increased, and a light perspiration covers the skin. The effects of the water-cure are well marked and very active, and it can be easily understood how the vitality of the tissues may be renewed. To these different means I add the application of a cold cataplasm to the abdomen so as to produce continuous refrigeration. I will describe to you, gentlemen, the manner of making a cold cataplasm. You take a linen cloth of sufficient size, and upon this is spread as much dry linseed-meal as will form a layer of about one centimetre in thickness. Here and there in the linseed-meal you then place pieces of ice of the size of a hawk's egg, another stratum of linseed-meal is placed over these, the whole is then enclosed within the cloth and applied to the abdomen. Under the influence of the heat of the body the ice melts gradually, the water mixes slowly with the meal, so that at the end of three hours the cataplasm is still cold. I use this powerful application, not in cases of lead colic alone, but in other diseases where the action of cold is required, as in peritonitis and typhoid fever. This manner of applying cold is, in my opinion, preferable to that of using bladders containing ice, which are sometimes so painful that they cannot be supported by the patient. By a treatment carried out in the manner I have just described, you will very quickly mitigate the affections caused by lead-poisoning. In my practice it has produced rapid effects; and I can say that in the forty cases observed by me, with two exceptions, all the nervous disorders disappeared as by enchantment.”

M. Monneret states that lead-poisoning is a general disease affecting the blood chiefly and directly, and revealing itself by very distinct anæmia. He refers to four patients under his care in the hospital who presented all the characters of this anæmic condition, as vascular souffles, a peculiar color of the skin, &c. Sometimes there is functional disturbance of the liver, and also symptoms of functional lesions of the kidney, lesions of the bladder, various nervous affections, and morbid changes in the nervous system. According to M. Monneret, the blood-corpuscles are diminished in number, and this change in the state of the blood he considers to be the fundamental fact of lead-poisoning. For these reasons cold and the water-cure are in every way adapted to the treatment of lead-poisoning; the method is one of the most powerful of those included within the plan of treatment that is called tonic; but at the time that it is employed wine, preparations of steel, and quinine should be given.

In concluding his lecture, M. Monneret gives it as his opinion "that cold applied *intus et extra* in cases of lead-poisoning not only acts powerfully as a palliative, but may be regarded up to a certain point as a powerful curative agent, which, by acting upon the capillary bloodvessels and upon the vaso-motor nerves, brings into play the normal secretory and excretory processes, and by re-establishing these functions gives them power to remove quickly from the organism the serious effects of that poisoning which manifests itself chiefly in severe disturbance of the nervous system. It is by restoring to the tissues a great part of their activity and molecular actions that cold is a pre-eminently curative agent."

ART. 48.—*Clinical Remarks on Diarrhœa and Vomiting, the result of Renal Disease.*

By GEORGE JOHNSON, M.D., F.R.C.P., Physician to King's College Hospital, Professor of Medicine in King's College, &c.

(*British Medical Journal*, April 27, 1867.)

In speaking of the management of the troublesome gastro-intestinal symptoms which so commonly occur in the advanced stages of chronic renal disease, Dr. Johnson says, "bearing in mind the fact that the vomited matters are usually very offensive, if you direct your patient to take copious draughts of tepid water, he will often obtain relief from his nausea by the speedy expulsion of the foul secretions and the thorough washing out of the stomach.

"The relief afforded by this simple cleansing process is analogous to that which is experienced by a patient whose bladder has been washed free from foul mucous and fetid ammoniacal urine. In both cases, the cleansing has to be repeated from time to time.

"The food must be of the lightest and most digestible kind. The process of digestion may be aided by a dose of fifteen or twenty drops of dilute hydrochloric acid with each meal, and to this may sometimes be added with advantage the thirtieth part of a grain of strychnia. The mineral acid neutralizes the ammonia which is often thrown off abundantly, and which tends to render the secretions of the stomach alkaline or only feebly acid, and strychnia is certainly a most valuable gastric tonic. Other vegetable bitters may be substituted for this; but they are less efficacious. A glass of champagne is sometimes a grateful and wholesome stimulant with the food.

"In some cases, vomiting may be best relieved by a purgative enema, or by stimulating the lower bowel by the compound colocynth pill, if the stomach will retain it. In not a few of these cases, the irritability of the stomach is excessive, and vomiting occurs with far greater frequency than is required for the expulsion of its morbid contents. In such cases, the excessive irritability may sometimes be allayed by constantly sucking lumps of ice. In other cases, I have seen the occasional inhalation of a small quantity of chloroform vapor afford great relief, or a few drops of chloroform may be swallowed from time to time with mucilage. A mustard poultice on the epigastrium sometimes has a good effect. In this class of cases, such remedies for vomiting as creasote, hydrocyanic acid, &c., are, according to my experience, quite useless. When the vomiting is incessant, nutritive and stimulant enemata often afford great relief and comfort; and, indeed, they are absolutely essential to prevent fatal exhaustion when the normal functions of the stomach are so entirely suspended as they commonly are in these painful cases.

"As the irritability of the stomach may be excessive, so may be, in some cases, the irritation of the bowels; and we may sometimes endeavor to allay tenesmus by the very guarded use of opium. With this view, ten or fifteen drops of laudanum may be given in an enema, or half a grain of opium with a grain of ipecacuanha in a pill, the effect being carefully watched, and the dose repeated or not according to circumstances. I warn you of the great danger which attends the incautious employment of opium in these cases. Bear in mind that the object of the opiate is to soothe; to allay irritation, and not close a safety valve; and, remembering this, you are not likely to err.

"The gastro-intestinal symptoms will be mitigated if, by any means, we can increase the secretory action of the kidney. Amongst the means which may be usefully employed with this end in view are, counter-irritation over the loins, either by dry-cupping or by mustard and linseed poultices; hot-air baths to stimulate the functions of the skin, and thus to lessen the work and the congestion of the kidney; and, as a diuretic, the imperial drink, made of cream of tartar and lemon, may be taken liberally, and rendered more diuretic by the addition of a small quantity of gin.

"When there is much anasarca, an incision into each leg is often followed by great relief; the fluid is rapidly drained away: then, the vessels being partially unloaded, the circulation through the kidney, as through every other organ, becomes more free; there is, consequently, a more copious secretion of urine; and thus the gastro-intestinal symptoms which resulted from uræmic contamination are indirectly relieved. The result of my experience is that, in cases of anasarca, inflammation rarely follows puncturing of the legs when the dropsy is simply renal and not complicated with obstruction of the circulation by valvular disease of the heart. The relief which follows the operation is often very great."

ART. 49.—*Intestinal Obstruction.*

By WILLIAM BRINTON, M.D., F.R.S.

(*Intestinal Obstruction, 1867.*)

The following is a summary of the treatment suggested by Dr. Brinton, in his valuable *brochure* for the several forms of obstruction:—

In intus-susception of the large intestine, repeated injections of liquid into the rectum, so as to distend the bowel to its utmost dimensions.

In stricture of the large intestine, the institution of an artificial anus above the obstacle.

In obstruction from bands, diverticula, &c., mostly affecting the small intestine, gastrotomy, and division of the cord-like cause of strangulation; a procedure which, if interrupted by unforeseen impediments, may further require the institution of an artificial anus in the most distended part.

In obstruction by stricture, however, a tobacco enema should be administered at least once; a measure which should be repeated, if need be, in obstruction by bands, and especially by gall-stones.

In all cases, opium and support to be freely administered from the earliest stage of the malady. The bulkier liquid constituent of the food to be given as sparingly as possible by the mouth, but administered freely per anum. Distensive enemata to precede all operations, if only as a means of aiding or assuring diagnosis. Where vomiting is excessive, nourishment to be also injected into the rectum in small and frequent doses.

After recovery, all food which can introduce indigestible substances into the intestine should be carefully avoided; the bowel having sometimes undergone changes of calibre and arrangement such as permit substances easily transmissible through the healthy canal to cause fatal obstruction.

The following case, the details of which are given by Dr. Buzzard, illustrates very well the advantage belonging to the kind of treatment which is advocated in the above work:—

CASE 1.—Elizabeth A., widow, aged forty, laundress. On the evening of April 8th, 1857, after an unusually hard day's work at the wash-tub, she was suddenly seized with a very sharp griping pain across the belly, followed, a quarter of an hour afterwards, by vomiting. Her bowels had been opened in the morning. The pain continued almost without intermission, and she vomited after every description of food up to the time when Dr. Buzzard first saw her, which was on April 10th, at 7 P. M. She then lay on her back, with the knees drawn up. If she turned on either side vomiting immediately occurred. The pain, which had rather increased than diminished, she referred to the region of the navel. Her face had an extremely anxious appearance, and was bathed with perspiration. The pulse was 128, and feeble; the act of coughing only slightly increased the pain; her belly was somewhat

swollen, generally resonant on percussion, in the neighborhood of the navel being absolutely tympanitic; it was soft and flaccid, and not tender upon pressure; the vomited matter at that time consisted of a brown fluid, with flocculi of the same color, of a sour and very offensive but not feculent odor; the tongue was dry and chipped; her bowels had not acted for sixty hours; there was no hernia. She was ordered to take half a grain of crude opium every four hours, and a teaspoonful of good beef-tea very frequently.

April 11.—Pulse 114; has slept but very little during the night; pain less severe; her head aches, and she feels bewildered; she has not vomited quite so much, but she complains greatly of the horribly offensive taste of the ejecta; her tongue is tolerably moist, and slightly furred at the base; skin warm and covered with perspiration. To continue the opium, &c.

12th.—Pulse 90; pain not quite so sharp; bowels still unrelieved; the vomited matters, she says, are still more filthy to the taste; her tongue is dry and chipped; belly more humid and resonant. Continue opium.

18th.—Pulse 98, more full and bounding; tongue red and chipped, moist at the tip, slightly furred, and yellow at the sides and base; vomiting continues. The fluid thrown up is now yellowish-brown in color, and decidedly feculent; this change occurred at noon to-day. She has not slept at all; she feels certain that she cannot recover. Continue treatment.

14th.—Pulse 96, feeble and jerking; tongue tolerably moist and chipped; the feculent vomiting still continues; the pain, she thinks, is not quite so bad as it was; she feels very sleepy, but cannot sleep.

At 7.30 P. M. Dr. Buzzard learned that she had passed a motion, which he did not see, as it had been thrown away. Her tongue is now very red; the pain is decidedly lessened; she has vomited but little during the day, and not at all since she had the evacuation; she feels dreadfully weak. Continue opium and beef-tea.

15th.—Pulse 100, quiet and good; tongue not so red, more moist, slightly furred at the base; has only vomited twice since last seen, and then the quantity thrown up was small, and not quite so offensive; she complains of tenesmus. Continue opium, &c.

Evening.—Pulse 90; has had two motions during the day, copious, slate-colored, and semi-fluid; has not vomited.

16th.—Pulse 108; has had another motion, consisting of thick, creamy fluid, of brownish-yellow color, containing small lumps of feculent matter; pain now much less severe; tongue red and moist; does not sleep at all; feels dreadfully stupid and lifeless; there is great soreness and sensation of bruising all over the belly; there is great difficulty in swallowing, accompanied by pain in the throat and pit of stomach, extending through to the back between the shoulders; her urine, which is abundant, scalds her; skin cool; does not vomit at all. Discontinue the opium; take beef-tea, arrowroot, and milk.

17th.—Pulse 104; tongue moist; fears she is not getting on well; great pain in her chest when she swallows anything; pain of a tenesmus character in the belly; bowels have been moved four times during the last twenty-four hours. She scarcely ever sleeps.

18th.—Pulse 114; tongue red, moist, and clean; has slept but very little; she says that as soon as her eyes are closed she has a sensation of everything whirling about; bowels have acted three times; motions fluid, of a dark-brown color; swallowing not quite so bad; her speech is rather thick, and she feels "tipsy."

19th.—Pulse 104, full; tongue red and moist; she slept rather better last night; took some broth to-day, with a very small piece of mutton; her swallowing is improved; she seems less confused; early to-day had a motion like the last described; does not vomit.

20th.—Pulse 100; still improving in every respect.

21st.—Pulse 102; very low-spirited; her bowels have been very much relaxed all night; has now no pain in the belly. After this she continued to improve daily, and on April 25th she had completely recovered.

Dr. Buzzard remarks that no accurate diagnosis with regard to the seat of obstruction was made in this case, and the patient's recovery necessarily leaves the matter in doubt. The rapidity with which vomiting succeeded the occurrence of sudden pain, and its long persistence, point, he thinks, to the lower part of the small intestine as the probable seat of an invagination which terminated by natural resolution. No purgative was administered to this woman throughout her illness. She took opium at four hours' intervals for six days;

under its influence she scarcely ever slept, but the bowels were relieved for the first time on the seventh day of the attack, and afterwards acted copiously without assistance.

In another case related by Dr. Buzzard, the patient took sixty grains of opium in the course of ten days; whilst under its influence his bowels were moved nineteen times.

In the third and last case mentioned by Dr. Buzzard, there was a longer continuance of constipation; the bowels were confined for fifteen days; the vomiting, which was most constant for the first three days, then declined, and only a little retching occurred occasionally. Ninety grains of opium were taken by this patient in the course of her illness; no purgative was administered.

ART. 50.—*Cases of Intestinal Obstruction, illustrating the Value of Opium as a Remedy.*

By W. H. SANDHAM, M. R. C. S., Cork.

(*The Medical Press and Circular*, January 16, 1867.)

"Mr. F., aged twenty, healthy constitution, residing four miles out of Cork, suffered two months since from intestinal obstruction; it yielded to ordinary treatment in about thirty-six hours. *Second Attack.*—At 4 o'clock A. M., on December 3d, I was sent for, and found him after taking a cup of salts and senna and a large dose of castor oil without any purgative effect. He complained of pain at the head of the colon and vomiting. There was no hernial tumor or other systemic disturbance; pulse soft, full, and 80. I administered a large turpentine and assafoetida enema; left him two pills, cal. gr. iij, opii gr. j, to be taken every four hours, followed by a glass of salts-and-senna mixture every hour; of this he drank 8 oz.; no effect.—Friday 4th, 10 A. M. Still in pain; bowels above the obstruction tympanitic; tenderness limited to seat of obstruction. Gave three drops of croton-oil, two turpentine and one tobacco injection this day. I remained with him this night. At one o'clock, being still in pain and rejecting everything, I determined on giving up purgatives by the mouth, and adopt the soothing plan; pulse, tongue, and heat of skin were normal. I put him on poppy stupes and two grs. of opium every two hours; vomiting and pain ceased immediately after second pill. I then put him on one gr. of opium every three hours. Saturday, 5th. No vomiting and little pain; system undisturbed; used large enemata morning and night; continued opium. Sunday, 6th. About 2 o'clock this morning he complained of inability to micturate, and his father becoming uneasy called in Dr. Edward Townsend. I preceded Dr. Townsend and administered a large enema through an œsophagus tube with a stomach-pump. He passed water without catheterism. Dr. Townsend added to my opium pill two grs. of calomel every three hours. Immediately after taking the second pill severe bilious, almost black, vomit set in. At my evening visit, 8 P. M., I omitted the calomel, and put him again on opium alone; *vomiting at once ceased*; used enema nocte-manèque. Monday, 7th, 8 A. M. Found him tranquil, and pulse full, soft, and 74; not much abdominal tenderness, but tympanitic to such an extent as to define the transverse colon and stomach; gave large enemata; in fact, pumped away until he could contain no more, when mechanical distension alone caused it to pass off; no effect. At half past four P. M. Dr. Townsend and I administered enemata as before, and added two grs. of aloes to the opium pill every three hours, and a glass of salts and infusion of roses, alternating with pill; to be staped often, and have fowl-broth and arrow-root; took some of the pills and most of mixture; no effect. Tuesday, 8th, nine o'clock A. M. Dr. O'Connor and I saw him, Dr. Townsend being fee'd off. We administered a copious enema, containing turpentine, oil, assafoetida, soap, and common salt, and to the opium and aloes pill of Dr. Townsend and myself, we added one-twelfth of a grain of strychnine every three hours. Six P. M. I saw him; used usual enemata, and continued pills. Up to this no systematic disturbance whatever; pulse 64. Wednesday, 9th. Tranquil; no vomiting; considerable tympanitis; enemas, stupes, &c., as before; ceased

pills and ordered half oz. castor oil and twelve η tinct. opium every three hours; took them through the night; had a good night, and towards morning three liquid stools, like portions of the injections. Thursday, 10th. Dr. O'Connor and I concluding the bowel was about to resume its functions, omitted enemata, but continued oil draught, two in the day. Dr. O'Connor see'd off. Six P. M. He took the two oil draughts; no alvine effect. I gave him a large soap enema, and he passed some scybalous matter, small in amount, two oil draughts during night. He this evening craved for food, and said he "felt satisfied some change had taken place." His abdomen was still very tympanitic, and whatever there was of tenderness was now over the sigmoid flexure of the colon, in the groin opposite that first pained. Friday, 11th, A. M. Three liquid stools; had fine night. To have tea and toast, beef-tea, arrow-root. Is in good spirits; swelling and tympanitis better. Six P. M. Had two feculent discharges, but none since taking seidlitz powder at three o'clock; gave soap injection. He passed a large quantity of broken-down faeces, complaints of painful tenesmus, eats with a liking; region of stomach and transverse colon still tympanitic; no pain on pressure anywhere over abdomen. Saturday, 12th, 10 A. M. Good night; took seidlitz powder at 6 A. M., followed by two satisfactory stools; gave soap enemata, followed by another satisfactory result; feels much better; tympanitis greatly abated. Sunday, 13th. Better; another enema satisfactory. 15th. Soap enema again satisfactory. Fee'd off.

"*Mr. F.'s Third Attack.*—On the 18th of February, 1865, again called in. Dr. O'Connor was four days in attendance, and during that period he used cal. and opium, salts-and-senna mixture, stupes and enemata, without effect. We agreed to treat him on the same principle as on the second attack—namely, avoiding purgatives by the mouth, and administering grain-doses of opium every four hours, with copious enemata nocte manequae; this treatment was followed with the same satisfactory results as before, so far as keeping vomiting and systemic disturbance quiet. Morning and evening copious enemata were given, until the 28th, when he had two encouraging stools; pulse tranquil, and 80; all through it kept steadily 96 to 100. Notwithstanding the continuance of opiates no symptom of narcotism presented. There was a marked difference between this and the second attack, in the remarkable absence of pain and tenderness. He had a sense of oppression from tympanitic distension, which was very great, but nothing more throughout; thirst was often urgent, and tongue brown and parched; lived on fowl-broth all through.

"March 1st.—This morning his bowels acted freely without enemata, and in consequence Dr. O'Connor and I were discharged. The father was physicking him for three days before Dr. O'Connor saw him, so that the obstruction this time continued *nineteen days*—the second attack *fourteen days*."

"Such attacks as these," Mr. Sandham remarks, "most practitioners of any standing must have met. The second attack is a remarkable one; and the third is in every particular like it—first, for its obstinacy, never yielding a jot for twelve days; second, for the number of injections administered, in all about thirty—at one time consisting of turpentine, oil, assafoetida; at another, soap-suds, soap-suds and salts, and even tobacco, cal. and opium pills to ptyalism, croton-oil bolus, croton oil by itself, senna and salts, salts and infusion of roses, pills of opium and aloes, opium, aloes, and strychnine, castor-oil draughts to the number of twelve, and from one o'clock A. M., on Friday, 4th, to Sunday, 13th, he took opium every three or four hours in doses of two grains, one grain, or the minimum, half a grain, throughout nine days and nights without one symptom of narcotism being induced. It was remarkable—*once he was put on opium*—how little the constitutional or systemic disturbance. Any medical man looking at him in bed, and examining his pulse, would at once tell the boy to get up for he had no illness. Dr. Watson, in his *Lectures on the Principles and Practice of Medicine*, page 463, says: 'I know of no cases of disease more painful to witness or to treat than those which result from invincible obstruction of the intestinal tube;' and, again, page 467—'It is to these circumstances of irremediable disease that *opiates* are eminently adapted.'" Every practitioner knows well how painful it is either to witness or treat obstinate intestinal occlusion. But the history of the preceding incontrovertibly proves that opium is invaluable even

in remedial cases—the persevering use of opium Mr. Sandham looks upon as the salvation of his patient.

He is strongly of opinion calomel is entirely contra-indicated once you are satisfied the bowel is constricted or obstructed, no matter from what cause. He thinks calomel does positive mischief, and in this way: you administer a scruple—ten or five grains as a purge at first; it fails to purge or pass per anum. It is then given every three or four hours, combined with opium. It is accumulating in the system, and what organ does it stimulate or seize on? The liver. Its secreting powers are increased, or the gall-bladder and its ducts stimulated; bile is poured out in large quantity; this bile cannot pass the obstructed bowel, and nature gets rid of it by vomiting; in fact, violent anti-peristaltic action is induced, and the patient thereby suffers intensely—this being invariably what he has witnessed whenever calomel was administered.

ART. 51.—*On the Disorders caused by Lumbrici.*

By M. BOUCHUT.

(*Gazette des Hôpitaux*, No. 42, 1867.)

M. Bouchut, although not believing that the presence of worms in the human intestines is always the cause of morbid affections, yet asserts that in a certain number of cases these entozoa give rise to general disorders that are sometimes of a serious nature. In order to prove the truth of this statement, he refers to a number of instances reported by Davaine, Esquirol, Frank, Mondière, Gaultier, and others, in which delirium, catalepsy, epilepsy, chorea, mania, and other severe neuroses were produced by lumbrici, and he adds to these the following case which lately came under his own notice in the children's hospital at Paris:—

“Emilie S., two years of age, was admitted February 25th, 1867. The child had been ill for four days: before that time she had not suffered from any affection except short attacks of mild diarrhœa. On Feb. 21st she was attacked with fever, general debility, loss of appetite, and was also constipated. The prostration was intense, and somewhat resembled coma. The pulse was 120, small, and slightly irregular.

“The respiratory functions being normal, M. Bouchut was doubtful whether this were a case of typhoid fever or one of meningitis; but the ophthalmoscope did not reveal any lesion of the retina, and no morbid symptoms were discovered by an examination of the abdomen. Two days afterwards, there was spontaneous diarrhœa, the fever, prostration, and semi-coma still persisting; and M. Bouchut again thought of typhoid fever, when the child passed two long worms by the mouth without any attack of vomiting.

“Upon this indication santonine was prescribed and given daily in doses of ten centigrammes: this drug expelled more lumbrici, and all the symptoms then rapidly disappeared. The child became conscious and was free from torpor, the fever ceased, and the appetite and natural spirits returned, and on the fourth day of the treatment by santonine she was cured.”

M. Bouchut states that cases of coma occasioned by the presence of lumbrici in the intestines, are rare; he has seen but one other instance, and that occurred in his own private practice: a young man was affected with extreme somnolency, cephalalgia, epistaxis, loss of appetite, and much fever. The case was thought to be one of typhoid fever, and an emetic was given; this caused vomiting, and the expulsion of several lumbrici; and cure resulted immediately.

The disorders produced by lumbrici may be divided into those that are local or mechanical, and those that are general or sympathetic.

The local phenomena caused by the presence of lumbrici in the intestines are: irritation of the alimentary canal, and enteritis with diarrhœa, more or less severe, glairy and sometimes sanguinolent evacuations, colic, and mechanical obstruction of fecal matter, occasionally leading to the formation of an abscess, or to internal strangulation.

The general or sympathetic phenomena are, loss of appetite, a blanched

tongue, acidity of the breath, pallor, chorea, deafness, general or partial convulsions, paralysis and many other neuroses. These symptoms are not so easily accepted by physicians as results of the presence of lumbrici as the local phenomena mentioned above; but so many facts have been reported by M. Bouchut and by other authorities, that there can be no room for doubt concerning their connection.

Formerly the difficulties in diagnosing the affections caused by worms were insurmountable, and the nature of the case could be cleared up only by the expulsion of an entozoon, but at the present day helminthology has made great progress, and by an intelligent use of the microscope, the diagnosis of these disorders may, in doubtful cases, be made with almost positive certainty.

By the researches of M. Davaine the fact has been established, that the *fæces* of an individual affected with worms contain an immense number of the ova of that form of entozoon which is present in the intestines. If, on examining *fæcal* matter under the microscope, the physician find either the oval and granulated ova of the lumbricus, or the spherical ova of the trichocephalus, with a small projection at each end, the oval and irregular ova of the thread worm, or the round eggs of the *tænia*, he can at once declare the variety of the entozoon that is present in the intestinal canal of his patient. This microscopical investigation is not difficult, a lens magnifying 50 diameters should be used at first, and replaced by one of 150 diameters as soon as an ovum is perceived in the *fæcal* matter examined, in this way one may avoid being deceived by mistaking for the egg of a worm some minute particle of mineral or organic matter.

M. Bouchut treats lumbricus with *santonine*, the alkaloid of wormseed. To children two years of age he administers it in doses of ten centigrammes, and in patients above this age, the quantity is increased by five centigrammes for every additional year. Lumbrici do not resist this therapeutic agent, which expels them rapidly through the rectum. To guard against other worms being developed from ova remaining in the intestines, it is necessary to give calomel or castor-oil in proper doses, and to continue for some time the use of the *santonine*. The alkaloid may be given, either as powder with some gooseberry-jam or honey, or in lozenges or pills; but the powder is the preferable form. Administered in such quantities as are fitted to the age of the patient, the drug does not seem to produce any special disturbance, or to irritate the digestive organs; the urine of the patient becomes of a deep yellow color, and stains the linen; sometimes a similar change takes place in the vitreous humor, and all objects appear yellow; but this is a very rare occurrence; M. Bouchut having seen it but once.

If *santonine* be not used, wormseed may be administered in doses of from sixty centigrammes to one gramme in honey. These two medicinal agents, *santonine* and powdered wormseeds, may be given in connection with, or may be replaced by, calomel, which acts efficiently as a vermicide and purgative.

M. Bouchut states that these therapeutic agents are indispensable in the treatment of lumbrici, and that besides these there are no other remedies of any real utility, and he ascribes no importance to what has been said of camphor, decoctions of garlic and male fern, *assafœtida*, and the oils of Dippel and Chabert.

ART. 52.—*On a New Method of Expelling Tænia.*

By Dr. LORTET.

(*Gazette Médicale de Paris.*)

From the researches of modern helminthologists, it is known that two kinds of tape-worm may be found in the human intestine, the bothriocephalus and the *tænia solium*. These two worms are frequently confounded by physicians, but the difference may easily be made out, by the fact of the former having the genitals upon its broad flat surface, the latter presenting them on its margins. The bothriocephalus causes but little annoyance, and is easily expelled. The ethereal oil of male fern, or Peschier's pills, followed by a mild oleaginous purgative, will rapidly remove this unpleasant habitant from the intestines. But in certain localities this worm will appear again and again with hopeless obstinacy, being

reproduced not from the cephalic extremity left adherent to the mucons membrane, but by the ingestion of fresh cysticerchi. In some places upon the banks of Lake Lemman, it affects the inhabitants almost in the manner of an epidemic. The bothriocephalus rarely affects Frenchmen. The *tænia solium*, on the other hand, is very common, and it is a remarkable fact, that great difficulty is often experienced in driving this worm from certain patients, although they avoid with the greatest care the originating causes of the affection. In order to treat the patient rationally, it must, *a priori*, be established that it is necessary.—1st. To administer some substance which will kill, or at least render inert, the worm, without exciting contraction of the intestines; and 2dly, to give to the patient afterwards a mild oleaginous purgative, which will remove the worm without breaking it up. Inhalation of ether, or its direct absorption by the intestinal canal, after it has been administered either in capsules or evaporated with syrup, will produce anæsthesia in the entozoon, which is then carried without violence to the rectum, from which it may be expelled entire and alive by a dose of some mild purgative.

Dr. Lortet has tried this remedy in only a few cases, but it has always succeeded, even in two patients in whom all other remedies had failed. The following is his method:—To give in one dose 20 grammes of ether, which in two hours is followed by 30 grammes of castor-oil. The worm is discharged without causing pain, entire or almost so, and always with the cephalic end intact.

(D) GENITO-URINARY SYSTEM.

ART. 53.—*Diabetes.*

By H. BENCE JONES, A.M., M.D., F.R.S., late Physician to St. George's Hospital.

(*Lectures on Pathology and Therapeutics.*)

Dr. Jones, in speaking of the treatment of diabetes, in his elaborate work on Pathology and Therapeutics, says, that the effect of diet is far beyond that of any known remedy. An anti-farinaceous, or in other words, an anti-saccharine diet, will remove the sugar from the urine, and stop all the symptoms of the complaint in all those cases in which the power of consuming the animal sugar remains unaffected. Even when the consumption of the animal sugar is imperfect or impossible, an anti-saccharine diet will lessen the thirst, the flow of water, the dryness of the mouth, and even the constipation, and check, though it may not stop, the waste. The simplest formula for the diet may be thus stated. All animal produce, including fish, flesh, fowl, game, eggs, cream, and meat-soup, should be taken; and all vegetable food that contains starch, dextrin, and sugar should be avoided. The vegetable substances that contain most starch, dextrin, and sugar are rice, maize, arrowroot, sago, potatoes, oatmeal, peas, beans, biscuit, toast, maccaroni, vermicelli, and all confectionery. Fruits are even worse than vegetables. Apricots, plums, peaches, cherries, pears, and gooseberries are nearly as bad, and some worse, than rice or maize. Stout, porter, and ale, cider, port, madeira, champagne, and sherry are more or less highly saccharine; cocoa and chocolate contain nearly 20 per cent. of starch and dextrin naturally, and more is often added.

As regards the use of medicines in diabetes, Dr. Jones is of opinion that there are two ends to be gained by their use; the first and most important is to promote the oxidation of the sugar; or, failing this, to compensate the system for the loss of saccharine fuel, and the consequent loss of power and nutrition by promoting the supply and oxidation of the oleaginous fuel. Of all the medicines that can be given for the promotion of the oxidation, whether of sugar or fat in the body, iron and alkalies are the most energetic; and hence, beyond all other remedies, iron or the ammonio-citrate of iron with excess of ammonia, or with other alkalies, are usually the best medicines for diabetes. The iron may be given in potass or Vichy, or in Fachingen water, and that preparation which confines the bowels least is most to be preferred. Hence, the potassio-tartrate

and Griffith's mixture are often useful. Alkalies without iron promote oxidation. Soda or potass may be given in the caustic state, or as carbonates. Carbonate of ammonia in ten, fifteen, or twenty grain doses thrice daily, in any gaseous mineral water, lessens the thirst.

Besides alkalies some animal substances are thought to promote change in the sugar in diabetes. Of these rennet and pepsine may be mentioned; but Dr. Jones is not satisfied that either are very useful.

Vegetable and animal oils and fats constitute important remedies in diabetes. Of all these cod-liver oil and cream are most frequently used. The following case may be taken as an instance of the amount of cod-liver oil that can be given:—

A man, aged twenty-four years, was admitted into St. George's Hospital, having lost two stone in weight during eight months. He passed seven quarts of urine daily. He remained under treatment for a month, during which time he was on animal diet and cod-liver oil. He began with half an ounce daily, and this was gradually increased up to eight ounces. The quantity of urine fell to two pints and a half, specific gravity 1030, and he increased in weight from 8st. 8lb. to 9st. 1lb.

Cream may be given in any quantity until the tongue begins to be coated, then it soon disagrees, and the stomach refuses to take it, or rejects it when taken.

Pure glycerine may be employed as a substitute for sugar in tea, and in other liquids.

To lessen the thirst, and the craving for food, opium is very useful—five or ten grains of Dover's powder, or five or ten drops of laudanum, may be given once or twice daily.

The second great object in the treatment of diabetes is to remove the constipation.

Notwithstanding the amount of food eaten, the action of the bowels usually is very difficult. All saline aperients increase the thirst, and pass off by the urine. Magnesia, from the absence of acidity, is usually inactive. Castor oil is by far the best aperient, when it does not nauseate, then capsules containing castor oil, with minute quantities of croton oil, are most efficacious. Compound extract of colocynth with jalapine, scammony, or gamboge, or podophylline, will act when oil cannot be taken. Calomel may be used as an aperient, but it has not any advantage over other chemical or mechanical irritants to the mucous membrane of the bowels.

ART. 54.—*Training, or Forced Exercise in the Treatment of Diabetes.*

(*British and Foreign Medico-Chirurgical Review*, Oct. 1866; *Bulletin Général de Thérapeutique*, Dec. 30, 1866.)

Professor Bouchardat, while admitting the efficacy of alimentary treatment in diabetes, considers it only as palliative, and he recommends the adoption of energetic exercise. This idea is not a novelty on his part, as in former writings he recommended, in the case of patients affected with this complaint, the energetic action of their bodies and arms; and then he ascertained that labor in the open air always promotes the utilization of the feculent matters in diabetic patients. It is not sufficient in all cases to cause the disappearance of the sugar, but, all things being equal, in regard to the quantity of feculent matters absorbed and other conditions, a diminution in the proportion of sugar contained in the urine always coincided with exercise in the open air. M. Bouchardat gives an instance of remarkable success in the treatment of diabetes attained by this treatment, the diet being carefully regulated and the urine being examined at intervals. Although the patient may at first be very weak, the adoption of exercise will gradually give him strength. It is of the greatest importance, according to M. Bouchardat, to use the strength in proportion as it returns; and daily exercise of the body, arms, and legs is indispensable. The greatest care must be taken to find some daily exercise which is agreeable to the patient; as, for instance, in the case of men, hunting, rowing, fencing, skating, billiards,

cricket, &c., or any ordinary manual employment, as sawing, cleaving wood, turning, and the active work of gardening; and in women, all the active household employments, especially those which require the action of the legs rather than standing without walking. Riding in a carriage is not to be adopted except when no other exercise is possible; but riding on horseback is a salutary kind of movement, although it cannot be substituted for all the others. Of all the modes of exercise, that which is most convenient must be chosen; and it ought to be energetic, so as to produce a thorough sweating over the whole body; and then all necessary precaution should be taken to prevent the chance of chilling the system. M. Bouchardat relates several cases in which his system was successfully adopted in the treatment of diabetes; he considers the exercise of the gymnasium especially useful when such an establishment is well conducted, and he gives some rules to be followed by the patients. When the exercise has been continued for about an hour, and all the body is bathed in sweat, the flannel should be changed, and the skin washed briskly with cloths soaked in cold water, then strongly rubbed with coarse gloves or towels, or flesh-brushes. Then the body is to be struck and kneaded, so as to produce a complete reaction, which is sustained by a walk of a quarter of an hour at least, the body being protected by good woollen clothes. The skin should not be neglected while these exercises are used, and salt-water baths, either warm, or, what is better, cold, if they can be borne, are, according to M. Bouchardat, of almost invariable utility. During the treatment the diet must be carefully regulated, glycogenic substances being avoided while the urine is diabetic, and resumed only when the sugar has disappeared. The red wines of Bordeaux or Burgundy may be drunk; but sparkling wines, like champagne, should be avoided. Coffee and tea, without sugar, are sometimes suitable, but their employment must be regulated by the condition of the urine after they are taken.

ART. 55.—*Diabetes.*

(*Medical Times and Gazette*, January 12, 1867.)

The plan Dr. Hare, of University College Hospital, adopts in cases of diabetes, is to allow the patients, when first admitted, the diet of the hospital in as great quantities as they desire. After pursuing this plan for a day or two, he changes to the usual restricted diet for diabetic patients, and can thus ascertain for himself the exact difference so produced. The effect is quite amazing. The quantity of urine is diminished, as is the amount of sugar contained in it, and by persevering in this plan of dieting he is able to reduce the specific gravity of the urine to a very low standard. In one case recently under his care it came down to 1007, yet there was a trace of sugar present. Cases have been recorded where sugar was found in urine having a specific gravity of 1015 or 1016, but we believe that this is one of the, if not the very, lowest densities presented by urine containing sugar. Dr. Hare usually combines his dietetic treatment with the exhibition of the tinct. ferri perchloridi and opiates night and morning.

ART. 56.—*Treatment of Diabetes.*

By ABBOTTS SMITH, M.D., M.R.C.P., &c.

Dr. Smith says, in his instructive little work *On Diabetes*, that the plan of treatment most likely to prove beneficial in this complaint is as follows:—To limit the patient's diet to such articles as do not contain sugar or starch; to attend carefully to the state of the secretions, especially those of the bowels and skin, promoting the action of the former by the administration of podophyllin (so as to act particularly upon the liver), or saline purgatives, and increasing the action of the skin by diaphoretics, the hot-air bath, warm clothing (flannel worn next the skin), and moderate exercise. When the general condition of the patient has in this manner been improved, we must specially direct our attention to the morbid secretion of the urine, and endeavor to check it by suitable

medicines. To give any particular remedy, simply because it has been known to be beneficial in diabetes, before the general points referred to have received attention, is opposed to common sense as it is likely to result in failure. The following general diet may be adopted by patients suffering from diabetes:—

Breakfast.—Bacon, mutton-chop, or eggs; one of the substitutes for ordinary bread; butter; tea, coffee, or cocoa, made with freshly ground nibs, and not with the ground cocoa-powder, as sold in the shops, unsweetened with sugar, and without milk.

Dinner.—Beef-tea, broths, or soups not flavored with carrots or other vegetables; mutton or beef, poultry or game, and fish; cabbages, greens; occasionally, but sparingly, rice pudding without milk, blanc-mange made with cream, not with milk; cheese, butter, and bran, gluten, or almond bread. (This meal should not be taken later than three or four P. M.) For desert, the patient may be allowed a glass or two of sherry or claret, and oily nuts, such as hazel-nuts or filberts, or walnuts. All other kinds of fruit must be interdicted.

Tea.—Similar to breakfast, with the exception of meat, which is not requisite.

Supper (at nine or ten P. M.).—Dietetic bread and butter, with a little meat, or a small basin of rice milk without sugar.

In the medical treatment of diabetes, the remedies which are of most frequent benefit are alteratives and tonics, so as to improve the appetite and general condition of the patient, and thus enable him the better to bear up against the great drain upon the system, caused by the elimination of the morbid saccharine materials. Quinine, gentian, and other bitters are very useful for improving the tone of the stomach; and the state of the patient may be still further amended by the administration of cod-liver oil, and of the preparations of iron. No remedy in the *Materia Medica* is of such value in the treatment of diabetes as cod-liver oil, it has a great tendency to improve the condition of the blood by increasing the proportion of the red corpuscles, which undergo considerable diminution in the blood of diabetic persons.

ART. 57.—*Treatment of Incontinence of Urine.*

By ABBOTTS SMITH, M.D., M.R.C.P., &c.

Dr. Smith states in his interesting brochure *On Diabetes; and on Enuresis arising from Irritability, Weakness, or Inflammation of the Bladder and Urinary Organs*, that it should not be overlooked that a cure of enuresis will be greatly facilitated by certain moral and dietetic measures. For instance, any bad habit of not getting out of bed for the purpose of emptying the bladder at proper intervals should be counteracted. The quantity of fluids taken by the patient should be moderately restricted, particularly in the evening. This constitutes the real secret of the occasional success of the plan of treatment termed "*Dieta Sicca*," resorted to by some practitioners for the purpose of diminishing the excessive secretion. It consists in giving thick soups, bread, roast, or baked meat, fish without sauce, and dried fruits; the amount of liquid nourishment is gradually lessened, and the patient's thirst is assuaged, by the use of baths. This plan, however, is useless when enuresis depends on actual disease of the bladder or kidneys. The usual diet should be selected chiefly from articles of food which, although nutritious, are unstimulating to the kidneys or to the bladder, and which are not difficult to digest. Of these, none is so well adapted as milk. Amongst the most objectionable articles of diet may be enumerated all liquids which are taken when hot, especially tea, spices, pastry, salted and preserved meats, and most compound dishes. The general remedial measures of sea-bathing, change of air, and exercise, will prove the most useful in atonic, strumous cases; but the patient should be cautioned with respect to riding on horseback, which is productive of the disorder in many persons of a delicate organization, and will, when excessively indulged in, frequently render the affection serious, and almost intractable to medical treatment.

ART. 58.—*Sarcinæ in the Urine, associated with Dyspepsia and Neuralgia.*

By F. BATEMAN, M. D., M. R. C. P. Lond., Physician to the Norfolk and Norwich Hospital.

(*The Lancet*, February 9, 1867.)

Sarcinæ in the urine are of so rare an occurrence, or at all events the published cases are so few in number in which these abnormal productions have been observed, that Dr. Bateman is induced to place on record the following case, as containing several features likely to interest, not only the scientific observer, but the practical physician:—

"During the summer of the year 1865 I was consulted by Mr. D., a gentleman aged fifty-five, who for many years had been subject to rheumatism and neuralgia in various forms, and who was just then suffering from dyspepsia and general neuralgia—that is, pains of a neuralgic character in different parts of the body. He told me he had been in his usual health till a few days previously, when he ate heartily of *miley cheese*, to the indiscreet use of which he attributed the dyspepsia and neuralgic symptoms which induced him to seek my advice.

"On examining this patient's urine, I found it loaded with sarcinæ, there being, however, no other peculiarity in this secretion beyond the presence of a few crystals of oxalate of lime. Being desirous of ascertaining whether the sarcinæ were present in the other secretions, I examined the feces, but with a negative result. I also tried to persuade my patient to empty his stomach by an emetic, with the view of ascertaining whether these abnormal bodies were present in this organ; but although formerly a lover of physiological investigation himself, he declined to assist science by the *experimentum in corpore humano*, as performed on his own person. Without entering into further details, suffice it to say that, under a purely dietetic treatment, in the course of a few days the dyspeptic and neuralgic symptom subsided, and with them all traces of sarcinæ disappeared.

"A few weeks afterwards the same train of symptoms—viz., dyspepsia, neuralgia, and sarcinæ in the urine—again occurred after the indiscreet use of indigestible food—that is, after a hearty meal of *cucumber, hare, vinegar, and beer*!

"Early in April of last year Mr. — had another attack of indigestion, ascribed by him this time to having eaten very heartily of *potatoes*. On examining the urine passed the next day, it was found to contain sarcinæ, which were present also, but to a less extent, on the third day, but had disappeared altogether from the urine passed on the fourth day from the attack.

"The urine of this gentleman continued free from this curious growth till the end of August, when it again appeared as an accompaniment of dyspepsia, this time produced by, or at all events occurring after, partaking of *bread and cheese and small beer*, the patient having at the same time indulged in a pipe, although from past experience he knew that smoking invariably disagreed with him. I found the urine acid, of specific gravity 1027, not albuminous, containing, besides sarcinæ, oxalates in abundance and a considerable quantity of pus-cells. I also, on this occasion, made a volumetric analysis of the principal solid ingredients, with the following results:—

Chlorides	13 parts per 1000
Urea	17 " "
Phosphoric acid (in combination)	2.6 " "

"There are two other symptoms in the chemical history of this gentleman which seem to me deserving of notice—viz., the existence of a stricture of long standing in the membranous portion of the urethra, and the frequent occurrence of severe prostatic irritation, relieved quite recently by the passage of several small *prostatic caculi*."

On consulting our best authorities, Dr. Bateman finds that the appearance

of sarcinæ in the urine is comparatively rare. Bennett has only seen one case; Beale mentions a few instances; Neubauer and Vogel only allude to two cases; and these authors all dismiss the subject without entering upon the pathological deductions to be drawn from the presence of these vegetable organisms.

(F) SKIN DISEASES.

ART. 59.—*Papers on Skin Diseases.*

By TILBURY FOX, M. D., M. R. C. P., Physician to St. John's Hospital for Skin Diseases.

(*The Lancet*, March 2 and 9, 1867.)

In these papers Dr. Fox gives a summary view of the diagnostic features of skin diseases. "It is not uncommon," he says, "for the majority of cases to be preceded, or even accompanied, by severe constitutional disturbance; therefore, if there be much fever and malaise, especially where the patient takes to bed from a sheer feeling of illness, whenever rash begins to show we suspect something grave, one of the acute specific diseases probably. However, amongst the occasional exceptions, acute lichen, erythema nodosum, secondary syphilis, acute eczema, pityriasis rubra, acute pemphigus, urticaria, herpes zoster, and erysipelas may be named. Secondary syphilis has been mistaken for the mottling of typhus and measles, acute lichen for measles, and herpes zoster for pleurisy, on account of the pain. It is merely necessary to be aware of these mistakes to avoid them. This test is then important as the rule. When symmetrical, the disease is due, usually, to a blood-poison; when unsymmetrical, to local causes or affections of the nervous trunks probably.

Temperament.—We guess at a glance whether our patient is of full habit and likely to have a loaded system, especially the case in women; whether there be organic disease, or if there be a dyspeptic habit, or an ill-fed system, that signifies debility. If *lymphatic*, we may expect eczema, impetigo, intertrigo, the pustular aspect of scabies, and ring-worm; if *gouty*, the scaly diseases, chronic eczema, and lichen agrius; if *rheumatic*, erythema nodosum; if *strumous*, eczema, lupus; if *florid*, alphas especially. There is also the *cancerous* aspect, and in *nervous* subjects various hyperæsthesiæ engrafted upon ordinary eruptions, and so on. Red-haired subjects get pityriasis of the scalp.

We ask how long the disease has existed?

Hereditary diseases are—lepra, psoriasis, ichthyosis, lichen, eczema, and syphiloderma especially.

Congenital diseases are—syphilodermata, pemphigus, pigmentary, nævoid, and ichthyosis (scales).

Chronicity.—The more chronic a disease is the more does it tend to become a local disease; and this is the case with hereditary affections, hence in these *local* treatment is the most important.

Has the patient had the disease before?

Recurrence.—Lepra is essentially the disease which recurs, but syphilitic diseases also return.

Occupation.—Cooks get eczema, and erythema, and lichen agrius about the backs of the hands, with bakers, grocers, and bricklayers; chimney-sweepers are liable to epithelioma of the scrotum; cotton workers to urticaria; butchers and graziers to whitlow, boils, and malignant pustule; dragoons and shoemakers to an inveterate form of eczema in the fork of the thighs; young women who come from the country and have the full diet fare of the London servants, get an overloaded system that shows itself as erythema papulatum, erythema nodosum, or impetigo.

When did the disease first appear?

Age is very important. During the first six weeks of life congenital syphilis develops itself; intertrigo, eczema of the scalp, and seborrhœa capillitii; the congenital diseases of course show also. Syphilitic pemphigus occurs, it is said, before the child is six months old, not afterwards; during the first few months

and up to and through the period of dentition, strophulus and eczema. One need only mention important facts. Cancer (epithelioma) is a disease of late life—not before thirty, about sixty; and rodent ulcer about the age of sixty and beyond. Lupus is a disease which commences in early and young life, and the same may be said of syphilis. The parasitic diseases occur in the young, rarely after twenty-one years of age. Herpes circinatus (or, as I call it, *tinea circinata*) is the form seen in middle life. In old people, prurigo, *ecthyma cachecticum*, pemphigus, and pruritus occur, with cancer and rodent ulcer.

Where did the disease first appear?

Seat.—On the scalp we have parasitic diseases, *keerion*, eczema, *porrigo* at the back of the head, sebaceous cysts, alopecia and lepra; ears, eczema; forehead, lepra and herpes zoster; near the eye, chromidrosis, rodent ulcer, xanthelasma, or vitiligoidea, molluscum; face generally, acne, impetigo contagiosa, erysipelas, lichen, syphilitic eruptions, erythema; nose, lupus, hypertrophy, acne rosacea; cheeks, lupus, malignant pustule, acne rosacea; upper lip, impetigo sycosiforme, herpes labialis; lower lip, epithelioma; chin, sycosis; whiskers, acne sycosiforme; angle of mouth, congenital syphilis; chest, chloasma and keloid; under clavicle, sudamina; about the nipples in women, scabies; in the side, shingles; outer and posterior aspects of trunk, prurigo and lichen, as distinguished from eczema on the inner and front aspects; elbows and knees, lepra, psoriasis; interdigits and about wrists, scabies; back of hands, lichen and grocers' and bakers' itch; palm of hands alone, syphilitic lepra and erythema; buttocks and feet of children, scabies; upper line of penis, scabies; scrotum, eczema, psoriasis, and epithelioma in chimney-sweepers; front of leg, erythema nodosum, and in old people, eczema rubrum; about the anus in children, congenital syphilis; generally over the body, pemphigus foliaceus and pityriasis rubra; in the bend of joints and armpits, eczema rubrum; and limited to the hair follicles, lichen and pityriasis pilaris; and to these and the sebaceous glands, lichen scrofulosus and lichen rubra.

Our next query ascertains whether the eruption be *persistent* or *evanescent* (urticaria), developed pretty much at once (acute specific diseases, herpes zoster, herpes), or *consecutive*, as in most cases, *uniform* or *multiform*; the latter being the character of scabies and syphilodermata especially, and also seen in the complication of scabies by impetigo contagiosa; urticaria, and scabies, or purpura; scabies and prurigo, eczema and scabies, eczema and lichen (eczema lichenodes), eczema and psoriasis, seen oftentimes in the fork of the thighs and about the bend and front of the elbow. This fact of the intermingling of diseases is one of the most important to remember; to forget it is to lay oneself open to one of the commonest sources of error.

To scrutinize closely the character of the eruption to ascertain the *primitive elementary lesion*, is our next duty. In acute cases we have no difficulty; but in chronic instances it is frequently difficult, because the disease is often modified by *secondary changes*—brought about by (1) abortive development; (2) by treatment; (3) by the intercurrent and intermingling with other diseases, as before mentioned. Most skin diseases employ the agency of inflammation in their operation; and this consists of redness (congestive), papulation (depositive), vesiculation (effusive), pustulation, &c. Now some diseases only need the aid of the minor, others of the greater, of these; hence by abortive development a vesicular disease (eczema) may only reach the erythematous or the papular stage. And we must remember that our guides to the correct interpretation must be the concomitants in each case. The intermingling of two or more diseases requires to be kept in mind; and the effect of treatment is oftentimes to check secretion, and to produce an unnatural scaliness and dryness, so that a chronic eczema looks like psoriasis (lepra). The history, however, shows it to have "run" or discharged in its early days. *Scratching*, too, always induces additional inflammation, and flannel very much so. In chronic cases, we necessarily go to the newly-developed part of the eruption to ascertain the nature of the elementary lesion—that is to say, to newly-affected parts where the eruption is scattered and discrete, and to the edge of patches. In many cases congestion is augmented by deficiency of elimination, especially in regard to the kidneys. I believe our omission to attend to this is greatly to be reprehended, and in

elderly people the effect of gravitation and retarded circulation is most potent. Many a case of eczema rubrum is exaggerated by, if its visible presence be not dependent upon, a deficient kidney action."

Dr. Fox next summarizes the features of the various eruptions:—

"*Eruptions, and their characters.*—*Macule*: (1) *pigmentary*—freckles, moles, the melasma about the nipples in pregnancy, vitiligoidea (sebaceous?); (2) *parasitic*—chloasma, often confounded, when the microscope is not used, with (3) *syphilitic* stains; (4) *hæmorrhagic*—persistent, and irremovable by pressure. *Erythema*: There is no need to particularize that of the acute specific diseases. Mistakes generally occur with roseola, which is confounded with erythema papulatum and rubeola; but it is never accompanied by distinct catarrh; is rose-colored at first, gradually getting duller; non-crescentic, occurring in circular patches from half an inch to an inch in diameter; not on the face; whilst it is often partial. In acute diseases erythema oftentimes occurs about the arms and limbs, as in cholera or rheumatism. Ordinary erythema is of a darker hue than roseola; it has a bluish tinge at its edge, and is not so well defined—i. e., is more diffuse. Erythema may also arise from friction; from tension, as in œdema; from medicinal substances, as henbane, arsenic, belladonna, copaiba; and after operations, when it is often pyæmic. The erythema of erysipelas is accompanied by tension, shining, smarting, and swelling. *E. scarlatiniforme* presents all the characters, as regards the rash, of scarlatina, but without its general or throat symptoms or the peculiar appearance of the tongue. The rash is seen about the neck, the flexures of the joints, and the trunk; it lasts five or six days, and is often evanescent for a time. The rosalia of authors—rubeola notha, or rubella—hold the same relation to rubeola that *E. scarlatiniforme* does to scarlet fever—that is to say, there is an absence of the general symptoms, whilst the eruption is similar. In all these cases of acute febrile erythemata desquamation is observed. In every instance the redness disappears or is removable by pressure, unlike that of purpura or pellagra. In lupus erythematodes an erythema like chilblains is common; it occurs in summer as well as in winter, and is connected with loss of hair, &c. The erythema of urticaria is very easily diagnosed: a slight scratching with the nail will produce a wheal. *Papules*, pale and firm, on the inner aspect of the limbs, with a thickened dull state of skin, constitute lichen; with dark apices (coagulated blood), if in a slight degree and on the arms and anterior aspect of the trunk, as a complication of scabies and of strophulus (pruriginosus) in children; to a marked extent seen in prurigo, accompanied mostly by an inelastic state of skin and the "broad" papules formed by any exaggeration of the little areas enclosed by the natural furrows of the skin: intermingled with vesicles and pustules in scabies; soft and red, and in children with erythema strophulus: flat and reddish, collected together in little parcels, though discrete, lichen ruber; aggregated and confluent, lichen circumscriptus; formed about the hair-follicles, lichen pilaris, pityriasis pilaris, lichen scrofulosus, and the lichen of phthisis. The most common mistake, that of confounding lichen and scabies, is at once avoided by observing the multiform aspect of the latter and the uniform character of the former.

"Those eruptions in which vesicles and pustules occur are distinguished eminently by the occurrence of secretion: and this at once divides diseases into two great classes: in the one class, where secretion or discharge occurs, *crusts* form; in the other, crusts are entirely absent. Ulcerative diseases are easily recognized. The character of the secretion affords most reliable information. If there be serosity, with crusts, it is intertrigo; if thin, few, flimsy, light-colored crusts form, and the discharge stiffen linen, it is eczema; if the crusts be a little thicker and in little circular patches, herpes or vesicular scabies. *Sero-purulent*, with slight yellow crusts, eczema impetiginodes; or if struck on and flattened, impetigo contagiosa; *purulent*, forming thick crusts of a yellow color, becoming more or less dark, ecthyma, furunculus, purulent scabies, impetigo sycosiforme, impetigo scabida, sycosis; and if cockle-shaped, rupia of course. *Sanious*, rupia and ecthyma cachecticum. *Fatty*, acne sebacea, seborrhœa capillitii, seborrhœa, sebaceous ichthyosis (legs). *Hæmorrhagic*, hæmidosia, &c.

"We distinguish scales from crusts: scales are altered epithelial cells. Redness with scales, lasting on to chronicity, we see in *tinea circinata*, *erythema circinatum*, and *herpes iris*. Scales, as a primary formation, if partial, in *lepra*; if general, *ichthyosis*. *Tubercula* are (1) homologous, as in keloid and elephantiasis. Keloid never ulcerates, and occurs about cicatrices and the chest; it is white and hard, with a few vessels coursing over it, with claw-like processes produced by contraction of the hypertrophous growth. Other forms of disease need not be mentioned, save *molluscum*, which consists either of an increase of the fibro-cellular tissue of the derma, including the pilous follicles, or of enlarged and recognizably distended sebaceous sacs. (2) Heterologous, followed by ulceration; and of these there are four diseases somewhat alike, some characters of which have already been given:—

"*Cancer (epithelioma)*.—Solitary, flat, hard, and tender. Scabs slight. When ulceration sets in the glands enlarge. There is much infiltration of tissues around the ulcer, which is papillated, dirty-grayish, ichorous or semi-scabbed, with hard, everted, and undermined edges. Epithelial elements may be seen by the microscope.

"*Rodent ulcer* begins as a small, pale, pretty soft tubercle, of very slow growth, almost painless, giving rise to an ulcer, without granular enlargement, presenting a clear surface, not papillary, without ichor, but with hard, sinuous, non-everted, and non-undermined edges.

"*Lupus* has at its base an erythema that looks like searing; then upon this arise dullish-red, softish, round, gelatinous-looking tubercles, forming patches of various extent. Thin adherent crusts form. There is no pain. The course is indolent. The edges of the patches are inflammatory, rounded, and raised, but not everted. There is always a tendency to repair, and cicatrices form, accompanied by distinct loss of substance.

"*Syphilis*.—Tubercles commence as papules; they become hard, large, and flattish, but not so flat as those of lupus; they are dull-red at first, then coppery, and disposed in circles, or serpiginous, covered by thick dark scales. There is an ulcerating and a non-ulcerating form, the ulceration being often serpiginous and misnamed 'lupus.' Syphilitic tubercles often occur about the face. The ulceration is dirty, ashy gray, sloughy, and ichorous, the edges sharply cut and everted, surrounded by tubercles of a copper tint.

"With regard to parasitic diseases, no difficulty ought to arise now that the microscope is at hand. Nevertheless, favus and impetigo are confounded with lepra, eczema, and tinea tonsurans, notwithstanding the cupped-crust favi of the former and the dry nibbled patches of the latter, in which the epithelial cells and hairs are literally eaten away by the fungus, when this is in abundance. Chloasma, with its itching and desquamation, is very frequently indeed mistaken for syphilitic maculæ. Sycosis is often non-parasitic; in this case, the damaged split-up hairs will be absent, whilst the disease travels up into the whiskers."

ART. 60.—Notes on Skin Disease.

(*Medical Times and Gazette*, January 12, 1867.)

The following are notes from Dr. Hillier's practice at University College:—

The treatment adopted by Dr. Hillier is simple. He combines local and general measures in most diseases, but in some cases trusts almost exclusively to local applications—as, for instance, in scabies, in prurigo of old people dependent on pediculi, and in the impetigo of the occiput, which is commonly due to pediculi. In the two latter diseases, tonics are also given internally. Many very obstinate cases of prurigo of months' duration have been cured in a week by the use of an ointment consisting of half an ounce of olive oil, half an ounce of lard, and two drachms of the powder of stavesacre; at the same time more frequent change of linen, and care in the washing of it in boiling water, are enjoined. Four-fifths of the cases of prurigo senilis are found to depend on the pediculus corporis, and should be called phthiriasis. It nearly always attacks the shoulders and neck first, and subsequently spreads to the trunk and lower extremities. It is not exclusively confined to old people. Mr. Balmanno

Squire has recently insisted on the fact that prurigo is commonly due to the *pediculus corporis*. It will be found that the older writers were familiar with the fact. Rayer figures the *pediculus* by the side of his plate of prurigo. It is a great gain to know that so distressing a malady has a local cause, as this knowledge saves the patient from drugs and leads to a more speedy cure. Scabies is believed to be due solely and exclusively to the presence of the *acarus scabiei*, one or more of which in nine cases of scabies out of ten which have not been submitted to treatment can be discovered at the end of the *cuniculus*. It is easily extracted on the end of a bent pin. The treatment is directed to the destruction of this parasite. Nothing is found so effectual as macerating the skin with soap and water, and the subsequent free inunction of simple sulphur ointment. If the cuticle is very thick and hard, a little carbonate of potash, one part in twelve of the ointment, is added with advantage. Other means of treating scabies have been tried, such as the solution of sulphuret of calcium used in Belgium; Hebra's ointment of sulphur, soft soap, huile de cade, chalk, and lard; benzole; solution of sulphate of zinc; solution of iodide of potassium, and sulphur baths. None of these remedies are equal, Dr. Hillier believes, to the old-fashioned sulphur ointment.

For the treatment of ring worm (*tinea tonsurans*), a preparation, composed of two drachms of iodine dissolved in an ounce of colorless oil of tar, is used with great success. It was first introduced by Dr. Coster, of Hanwell Central London Schools. This preparation is painted on the affected parts with a firm brush. It forms a cake, which separates at the end of a week or fortnight. It may require to be repeated once or twice, but not often more frequently. It causes little or no pain; is not liable to cause abscesses or destruction of the hair-follicles, such as often result from deep blistering. The oil of tar is obtained by distillation from the common tar, and has a specific gravity of .853. Good diet and tonics or cod-liver oil promote the cure, but they are not essential.

For the cure of favus, epilation is assiduously resorted to, with the use of sulphurous-acid lotion, or an ointment containing sulphur and white precipitate.

For the cure of alopecia areata (*tinea decalvans*), local stimulation with tincture of cantharides or tincture of iodine is mainly used, whilst arsenic is often given internally. This drug is also used in the treatment of psoriasis, chronic eczema, and pemphigus, and less frequently in lichen and lupus. In acute eczema and psoriasis, antimony is given in doses proportioned to the strength of the patient and the amount of local inflammation, as a preparation for an arsenical course. In chronic eczema, with much thickening of the cutis, strong solutions of potassa fusa are painted on the affected parts. When there is not much thickening and not much crusting, tar is applied locally, either undiluted or with equal parts of glycerine, as recommended by Hebra.

Some dermatologists forbid the use of soap almost entirely in skin diseases. Dr. Hillier rather encourages its use, except in acute eczema, pityriasis, and herpes.

He does not consider that the same diet is adapted for every case of skin disease. This requires to be regulated according to the constitution of the patient. He does not think that all cases of eczema in children are benefited by an extra quantity of meat in their diet, or that nearly all skin diseases are traceable to debility.

One of the most important things in treating a skin disease is to ascertain whether there is any syphilitic character in it. In this case, small doses of the bichloride of mercury are given with or without an excess of iodide of potassium. In tertiary syphilis, the iodide of potassium is given alone. If the patient is very cachectic, it may be preceded by the iodide of iron. For congenital syphilis, gray powder is usually preferred.

ART. 61.—*Eczema, and its Treatment.*

By Dr. W. FRAZER, M. R. I. A.; Hon. Member Med. Chir. Society, Montreal; late Examiner to the Queen's University, Ireland.

(*Journal of Cutaneous Medicine and Diseases of the Skin.*)

In this paper, which contains some remarks of a practical nature upon the important subject of eczema, with special reference to its treatment, Dr. Frazer observes:—

1. Eczema is a disease always curable within a reasonable time, and often most amenable to treatment.
2. The hair should never be removed, unless under exceptional circumstances.
3. Sulphur is useless in this disease, sulphur-baths not required, or injurious.
4. Moist applications, lotions, and frequent bathing, are all injudicious.
5. Expatriation to distant watering-places quite uncalled for.
6. Constitutional treatment of primary importance; tonics are indicated; and alterative doses of oxy muriate of mercury are of decided service.
7. In certain cases chalybeates are required, and, when gout is present, colchicum.
8. When excessive hyperæsthesia exists, strychnia, given in small repeated quantities, is beneficial.
9. The digestive functions require attention, acidity and imperfect digestion being often complained of.
10. For local treatment, a dilute glycerate of nitrate of mercury is recommended. Formula: R.—Unguent. hydrarg. nitratis, olei olivæ vel unguent. cetacei, ana 3ij; tere et adde glycerinæ ʒiiss, olei amygdal. essent. gtt. vj. Fiat unguentum.
11. When there are fissures in the hands and fingers, strong nitric acid is useful; it requires to be applied with a light hand, and restricted to the fissured parts.
12. Ointment of red iodide of mercury to excite local action in those cases for which potash solutions are advised by Hebra.

ART. 62.—*Psoriasis.*

By T. W. BELCHER, M. A., M. D. Dub.

(*Medical Press and Circular*, February 6, 1867.)

The following case is recorded by Dr. Belcher:—

"C. K., aged thirty, and married, by trade a house-painter, was admitted to the Dispensary for Diseases of the Skin on the 28th December, 1865, with a few patches of psoriasis in the vicinities of the joints, particularly of the elbow-joint. He had this affection for some time, and had been treated for it, but had not persevered in the treatment advised by his medical attendant. He had no syphilitic taint, so far as I could ascertain. The form of the disease under which he labored was that described in my edition of *Neligan* (p. 251) as psoriasis *aggregata*, the psoriasis *diffusa* of Willan, the psoriasis *confluens* of Rayer, and the psoriasis *vulgaris* of other dermatologists. The patient had no constitutional disturbance or local irritation; no itching or inconvenience of any kind, except the fact of the eruption. In this case I gave an arsenical mixture, containing three minims of Fowler's solution in each half ounce; and I directed him to take one dose thrice daily, immediately after meals, intermitting for a day or two in case arsenical symptoms supervened, and taking two teaspoonfuls of Epsom salts once a week. For a considerable time after he began to take this medicine there were not any apparent signs of amendment, but neither were there any signs of aggravation of the disease, such as most practitioners see in cutaneous cases, when first 'put on arsenic,' as the phrase is. There were not any signs of arsenical saturation, and therefore I conclude

that the action of the medicine was tonic and alterative. The doses were neither increased nor decreased, and there was not any local treatment adopted. On the 23d of February, 1866, he was nearly well, and on the 2d of March there was scarcely any trace of the eruption to be seen. I have not seen the patient since, so I conclude he was troubled no further with his old enemy; but if so, it was more by good fortune than because of anything else, for he dropped off attending, as so many do, when he thought himself well, and did not persevere in the use of the arsenical solution, as he ought to have done, for at least two or three months after all traces of the disease had disappeared.

"This is but one instance of several others which I have treated on the same plan, and though there is nothing novel or original in treating this disease by Fowler's solution; yet I think the case in point illustrates the specific action of a single remedy, and shows that many cases of psoriasis may be cured without the adoption of any local treatment whatever, without giving gradually increasing doses as advised by many good authorities, and without evidence of arsenical saturation, which, according to others, is necessary in cases of this kind. Moreover, it shows that such large doses as fifteen minims, as advised by some—and those no mean authorities—are not at all necessary for ordinary purposes."

Dr. Belcher makes the following observations on this disease:—

PSORIASIS, the *lepra* of the Greeks, the *vilitigo* of Celsus, *lepre* of the French, *der aussatz* of the Germans, *sahafati* of the Arabian medical writers, and *sappachath* of the Levitical law (Lev. xiii. 2), may be taken as the representative of the squamous class. Dr. Neligan divided it into psoriasis guttata, psoriasis aggregata, and psoriasis lepræ formis. The first two of these varieties may be said to be stages one of the other, although in all cases this is not found to be so, while the third is the *lepra* of some writers, and may be looked on as the typical and fully-developed psoriasis with silvery scales arranged in an ovoid or circular form, and unaccompanied by any constitutional, and, for the most part, by any local irritation.

Dr. McCall Anderson, in his monograph on psoriasis, describes a variety which he calls psoriasis *rupioides*, because of the disease assuming the shape of large conical crusts, marked by concentric rings. There is also the variety called syphilitic psoriasis, which properly should be classed among the "syphilides," and is therefore outside the range of this paper.

Causes.—It is undoubtedly hereditary, but of course not necessarily so, and in short it may be best described as essentially a blood-disease. Mr. Erasmus Wilson believes it to be caused by a syphilitic poison, but many other writers are not of this opinion. So far as my experience goes, it occurs chiefly in those whose health is below par, and is more frequent among what we call the better classes, than among our poorer brethren. At least, taking patients number for number, I see more cases of it in private than in dispensary practice.

Diagnosis.—Many practitioners confound chronic eczema with psoriasis. This I have repeatedly seen to occur; and it is the more remarkable, because while there are several points of non-resemblance between the two affections, there are two which may be readily perceived in almost every case. One is the fact, that in psoriasis the scales are of a bright *silvery* color, while the scales or quasi-scales in chronic eczema are not silvery. The other is, that itching is a very marked symptom in chronic eczema, while, so far as I have seen, it is almost entirely absent in psoriasis. Dr. McCall Anderson remarks thus on this point, in his monograph already quoted (p. 6.): "There is, curiously enough, a difference of opinion amongst authors as to whether psoriasis is accompanied or not by irritation of the skin—a difference of opinion which is all the less excusable, seeing that we have not here to do with a question of theory, but of fact. Thus, Hardy states that itching is always present, while Devergie informs us that in uncomplicated cases there is never any itching at all. Hebra, on the other hand, states that the itching is only present when the disease is commencing, or when new points of eruption are making their appearance, and that it never continues uninterruptedly during the whole course of the disease. There can be no doubt that the statement of the last-named observer is substantially correct." The diagnosis of syphilitic from non-syphilitic psoriasis is not so

easy a matter as that just now mentioned. The points of resemblance and difference are not few; but perhaps the principal are, that in syphilitic psoriasis, there is the coppery tint of the patches of diseased skin common to all the syphilides, as opposed to the dusky red patches of the non-syphilitic; that the extent of the syphilitic eruption is not commonly as great as that of the non-syphilitic; that the patches in the syphilitic disease are usually small and circular, while in the typical disease they are often large and irregular; and that the syphilitic scales are often gray, as contrasted with the bright silvery color of those in the non syphilitic affection. Psoriasis has also been confounded with herpes circinatus and pityriasis rubra.

Prognosis.—Mostly favorable, although the disease is essentially chronic, and is very much affected by mental anxiety, particularly among the mercantile classes.

Pathology.—According to some, strumous, according to others, syphilitic; while most French writers consider it to depend on what they call the "Dartrous Diathesis," of which they deem this affection an exemplary illustration.

Treatment.—In non-syphilitic cases, arsenic is the best remedy; and in cases in which there is suspicion of a syphilitic taint I always now use Neligan's ioduretted solution of the iodide of potassium and arsenic, prescribed thus:—

R Liquoris arsenicalis, minima octoginta.
Iodidi potassii, grana sexdecim.
Iodi puri, grana quatuor.
Syrupi florum aurantii, uncias duas. Solve.

This solution will be found fully described in Professor Macnamara's (sixth) edition of Neligan's Medicine, &c., p. 598; and contains in each fluid drachm five minims of Fowler's solution of iodide of potassium, and a fourth of a grain of iodine.

I prescribe forty minims of it for an adult thrice daily after meals. Sometimes it may be given in water; while at other times it may be advantageously taken in infusion of gentian or dulcamara; and it will frequently serve the patient to change the vehicle of its administration from time to time. The effect of this on mind and body is much greater than we should have any reason to expect.

In some cases arsenic must be given to produce the symptoms of arsenical saturation, so well known as being described by Mr. Hunt; and by Dr. Begbie, in his paper, "On the Use of Arsenic," published in the *Edinburgh Medical Journal* in 1858; but I do not at all think this necessary in ordinary cases.

I may be perhaps excused for quoting from p. 270 of my edition of Neligan on the Skin what I consider an aphorism in the treatment of these cases: "It generally occurs that in the treatment of scaly diseases by arsenic or by iodine, the eruption at first presents an aggravated appearance, the affected parts exhibiting an irritated aspect, and the scaly desquamation being much augmented; but these symptoms soon pass away, and signs of amendment begin to show themselves." I do not think local applications of much use in psoriasis. The fact that so many are recommended is sufficient on this point, even if one had no personal experience; and when to this we add the consideration of the constitutional nature of the disease, it will appear reasonable that local treatment can at best be but palliative. Nevertheless, it is much used in Germany, and by some good physicians at home.

ART. 63.—Chronic Eczema.

(*Medical Times and Gazette*, March 30th, 1867.)

What will cure chronic eczema? is a question, we fear, more easily put than answered. No one who has had any experience in the treatment of skin diseases will dispute the extreme difficulty of getting rid of any one of them when it has once fairly fixed itself in the system. And it is needless to say that the remedy which succeeds in one case will not in all, as two cases under the charge of Dr. H. Jones well show. The one patient was a boy who had not long been ill.

Arsenic effected a speedy cure. The other was an old woman, who had been ill for years. Arsenic was given for weeks, during which she grew no better, but rather got worse. This drug was after a time discontinued, and simple effervescent salines given, under which the patient rapidly improved, but we fear signs of relapse are already showing themselves.

ART. 64.—*Tinea Decalvans* (a Case of Complete Baldness, with Remarks).

Under the care of Dr. DRYSDALE.

(*Medical Press and Circular*, April 10, 1867.)

Mary P., aged fifteen, was brought to see Dr. Drysdale at the Metropolitan Free Hospital by Mr. Sterling, house-surgeon to the hospital, February 15th, 1867. This patient was almost entirely without hair on the scalp; with the exception of about a dozen hairs on the frontal region, and one or two on other parts of the scalp, there was nothing to be seen but a downy cotton-like growth, most visible on the occipital and the parietal regions. The patient was well nourished, and though not fat, was by no means thin. Her health was good, with the exception of occasional headaches—menstruation had occurred once or twice. There were some hairs, but not many, in the regions of the eyebrows.

History.—She is one of a family of four children; none of her brothers or sisters have suffered from this complaint. The baldness first commenced at the age of four years in circular patches, which enlarged and at length became, after partial reappearances, as at present, total. Dr. Drysdale observed that much of the hair was irrevocably lost; but that, if the downy hairs were carefully extracted, and a parasiticide composed of hydrargyri bichloridi gr. j ad aq. 3j, were used for some months, it was possible that some of the hairs might grow again.

Willan described, under the name of *porrigo decalvans*, a species of tinea, which M. Cazenave afterwards described as vitiligo, in which the latter observer confounded it with another disease, where the hairs became blanched, but do not fall. Gruby, Audouin, and others have met in this affection, a vegetable parasite *microsporon*, and the illustrious observer, M. Bazin, has confirmed the existence of this parasite. We may then define tinea decalvans as a parasitic disease, which affects every part of the hairy system and causes a fall of the hair, and the presence of a cotton-like down upon the part affected, caused by the presence of a fungus called *microsporon Audouini*. At first, in this disease the hairs become dull, dry, and less glistening, and easily pulled out, whilst the skin becomes pale beneath. After the fall of the hairs, a cotton-like down is observed on the surface of the scalp, upon which down a white dust is to be observed, consisting of the parasitic growth. In a later stage of the disease, we no longer find any down, and there is atrophy of the scalp and irremediable baldness.

The disease ordinarily appears in the form of rounded patches, surrounded by healthy hair, which patches continually tend to become larger from the extension of the parasitic growth. This may go on until every hair in the body is destroyed. The cure of this disease sometimes comes on spontaneously, as in the case above cited, for a time; in certain cases it does not go further than the downy period.

This result is much favored by pulling out the hairs and using a parasiticide, such as gr. j of hydrarg. bichlor. to aquæ 3j, with q. s. of alcohol. This application must be made for a long time to the parts affected. The appearance of the cryptogams under the microscope is similar to that in other parasitic diseases, except that the mycelium is in greater quantity, and the spores are said to be rather smaller.

The diagnosis of tinea decalvans is rather easy. There are two pathognomonic symptoms—(1) the fall of the hair, (2) the existence of down. It need rarely be confounded with favus or tinea tonsurans, since in favus there are crusts and cups, and the hairs do not all come out; again, in tinea tonsurans

the hairs are broken, and the skin is colored brown and covered with scales. The *prognosis* is generally grave as far as baldness is concerned, unless vigorous means are made use of. The disease is very contagious, and Dr. Drysdale has seen three cases of it in the same family at one time. It is, perhaps, more common in children than in adults. The treatment must consist of epilation of a large space of the hair in the vicinity of the patch, and the long application, by means of a sponge, of the parasiticide lotion above referred to. In some cases it is extremely difficult to extract the hairs, which break easily. When the disease has come to the last stage, all treatment is useless. Mr. Erasmus Wilson, and other observers in this country, seem to err in believing that cases like those cited above may be caused by nervous weakness. The baldness caused by wasting diseases, such as phthisis, syphilis, fevers, and senile baldness, &c., are easily diagnosed from that which is gradually caused by well-defined patches progressing, as in this patient, because unchecked by treatment, towards total baldness.

ART. 65.—*Case of Prurigo alternating with Melancholia.*

By C. HANDFIELD JONES, M. B., F. R. S., Physician to St. Mary's Hospital.

(*British Medical Journal*, March 9, 1867.)

Dr. Jones states that he is indebted for the following case to Dr. Palmer:—

"A clergyman, aged sixty-four, had an attack of melancholia about 1850, which lasted two years, leaving him quite well. When seen in October, 1859, he stated that he had had varicose veins in the left leg for a long time, which on one occasion gave rise to troublesome rash and itching. The use of a bandage and aperients had kept him from suffering any annoyance from them for some years. At this date there was a threatening of a renewal of pain and itching near the left ankle; the veins were enlarged. His health was good. After a few weeks, one or two small ulcers formed; from these a blush of erythema radiated, accompanied by much itching. In spite of the best devised management, the itching, clearly of a pruriginous character, increased in extent and severity. About the end of the year, his condition was really distressing. The itching he described as intolerable, precluding sleep, or rest of mind or body. The surface of the whole leg was bright red, and covered with a very thin cuticle, through which innumerable papulæ could be seen; but there was no raw discharging part, save two little ulcers. The only relief obtained was from keeping the leg enveloped in lint soaked in strong infusion of tobacco, with the addition sometimes of powdered opium, sometimes of a large proportion of hydrocyanic acid. Latterly, faintness after eating came on. The mind all the time was perfectly sound. One morning early in February, a hasty message was brought, that Mr. — had gone out of his senses. When Dr. Palmer visited him, he found him wildly excited, and irrational in his talk; but the prurigo was gone. The previous evening, he had been itching as usual; this morning the skin was only a little red, and he said it was quite well. He gradually became melancholic, and has so remained to the present day (November, 1865). The prurigo has never returned." Believing, as Romberg does, that prurigo is essentially an hyperæsthesia of cutaneous nerves, Dr. Jones regards its alternation with melancholia as an occurrence of the same kind as the shifting of a neuralgia from one part to another; the only difference being, that a nervous centre is substituted for a nerve-tract. In Dr. Jones's work on *Functional Nerve-Disorders*, he has recorded an instance in which severe facial neuralgia, as it gave way to quinine, was replaced by periodical attacks of hysteria, lasting about two hours. Whether, in the above instance, any *materies morbi*, such as the gouty, existed, and underwent metastasis from the peripheral parts to the central, he has no evidence to show. Dr. Jones does not think that in either lichen or prurigo we have much ground for believing that the malady is dependent on any blood-poison. It seems to be of importance to have a clear conception of the possibility of nervous centres suffering in a quite analogous way to nerves,

as the mind is thereby shaken off from perpetually recurring, in all cases of cerebral disorder, to the notions of congestion and effusion, as it is so prone to do.

ART. 66.—*Treatment of Itch by Balsam of Peru.*

(*Schmidt's Jahrbücher*, and *New York Medical Journal*, February, 1867.)

In the Berlin Charité, Peru balsam has been used against itch with great success. Dr. Burchardt's plan is to wash the patient thoroughly, morning and evening, and then rub in the balsam. By this means he has been successful in making a cure in several days. Under the microscope the itch-insect in the balsam is seen to die in half an hour, and he thinks that the balsam, by penetrating the channels which the insect burrows in the skin, comes in contact with the germs, and prevents their development.

SECT. III.—FORENSIC MEDICINE.

ART. 67.—*Four Cases of Entry of Air into the Circulation.*

By N. HECKFORD, Medical Registrar to the London Hospital.

(*Medical Times and Gazette*, February 9, 1867.)

The entry of air into the circulation is generally supposed to be an event of rare occurrence. The fact, however, of four cases having come under Mr. Heckford's notice within a period of thirty months, leads him to think that it is by no means an infrequent cause of death. In cases of fracture of the ribs, with wound of lung especially, he sees no reason why air should not occasionally be forced into the lacerated vessels as well as into the general areolar tissue.

In one of his cases death was instantaneous. In two others, although the exact period of the entry could not be determined, it is probable that death did not take place until some time after. In the fourth case the patient lived four hours. In this instance, judging from the comparatively small quantity of air that must have entered, and also from an absence of any symptom denoting distress, Mr. Heckford is led to believe that the fatal result was due to another cause.

The following cases are recorded:—

CASE 1.—In January, 1865, I was requested by Mr. Loane, surgeon, of Dock Street, to assist him in making a post-mortem examination of the body of a woman who had died suddenly during childbirth. She was forty-three years of age, and this was her eighteenth confinement. She enjoyed good health, and up to the time of death nothing unusual was noticed. Labor commenced at four P. M. At three o'clock on the following morning a midwife was sent for, but did not attend in time, and thus no reliable history of the symptoms could be obtained. A female friend, who was the only person present, stated that after a few strong pains a living child was expelled, and immediately after its birth the mother expired. According to her statement, death was instantaneous, and without the least struggling. "She turned on her back and was dead." There had not been any hemorrhage, and the placenta was not interfered with.

Post-mortem Appearances.—The lungs were found to be somewhat emphysematous at the apices, and congested at the bases, but the latter condition was, no doubt, the result of post-mortem gravitation of blood. The bronchial mucous membrane also was congested and thickened (from old bronchitis). The heart appeared quite healthy, its substance was not fatty, and the valves were perfect. There was no atheroma of the aorta or the coronary arteries. Both ventricles contained blood, with which (from its frothy appearance) a considerable quantity of air was mixed. On making sections of the different viscera, air bubbled forth freely from the divided bloodvessels, and in the arteries of the brain its presence was unmistakable, as it could be seen intervening between columns of blood in numerous places. The various organs were otherwise in a normal condition, and the presence of air was, apparently, the only possible cause of death. This examination was made fifty-four hours after death, and the objection

might be raised that the so-called air was nothing more than gas produced by decomposition. To this I would answer that the body was in a state of perfect preservation. It must be recollected that it was winter. The greater part of the placenta was still united to the uterine walls, but at one spot it had become detached. If, then, my supposition as to the cause of death be correct, air must have entered by the uterine sinuses corresponding to the detached portion of the placenta.

CASE 2.—In July, 1864, a man was admitted into the hospital with fracture of several ribs on the left side. The corresponding lung was wounded, and there was extensive emphysema of the cellular tissue. He died at the end of twenty-four hours. Urgent dyspnoea existed from the first, and this of course masked any unusual circumstance which may have occurred at the moment of death. At any rate, death was not peculiarly sudden. In this case also both sides of the heart contained frothy blood, and air was found permeating the tissues generally. This body was examined within twenty-four hours after death, and here the air must have entered by the wounded pulmonary vessels.

CASE 3.—The particulars of this case were given to me by Mr. Llewellyn, House-Surgeon. A middle-aged man in robust health was admitted for a compound fracture of the femur. The wound was comparatively slight, and there was no hemorrhage of importance. The patient was evidently in great distress, his restlessness and anxiety being so marked as to elicit from the nurse a remark to the effect that she had "never seen a man die so hard." Death occurred an hour and a quarter after the receipt of the injury. It was thought to be due to shock, although at the time it was considered strange that the vital powers of so muscular a man should have been so easily overpowered.

The post-mortem examination was made forty-two hours after death. No internal injuries were found. Air was present in the veins. The record does not state that it was also noticed in the heart, but that the organ was empty. Mr. Llewellyn, however, acknowledges that it may have escaped observation, especially as so unusual a circumstance was not suspected. The air in the veins was seen towards the end of the examination, and after the heart had been removed. This case, therefore, is not quite conclusive.

CASE 4.—About the middle of last October, while acting as Resident Medical Officer, I admitted a severe case of cholera. The patient was a woman far advanced in pregnancy. She was pulseless, blue, and cold, and her breathing was shallow and rapid. The prognosis was of course most unfavorable. Saline injection into the veins was the plan of treatment adopted. The median cephalic was the vessel opened. After the introduction of about fifty ounces of the fluid some obstruction to its flow occurred. To overcome this, the injection-tube was withdrawn a little way, when suddenly a peculiar gurgling, hissing sound proclaimed the entry of air. I suppose traction on the vessel was caused by the partial withdrawal of the tube, thus inducing the condition called "canalization." I may also mention that I distinctly felt the thrill of the air rushing up the vein. The apparatus was immediately removed and a compress and bandage applied. No appreciable aggravation of the patient's previous dyspnoea was noticed after the accident, neither was there any struggling nor additional complaint of any sort. The woman died in about four hours' time; the mode of death, however, was gradual, and did not in any way differ from that usual in cholera collapse. At the moment of death the operation of Cæsarean section was performed, but the fœtus extracted had evidently been dead some time.

At the post-mortem examination air was found in both ventricles, and also in all the vessels. As a proof of the impossibility of this being due to decomposition, it is as well to state that no such condition existed in the fœtus.

ART. 68.—A Case of Resuscitation after Two Hours' Apparent Death by Drowning, occurring in the late Catastrophe at Regent's Park.

By JOHN DENNAN.

(*Medical Press and Circular*, January 30, 1867.)

On the afternoon of Tuesday, the 15th January, Mr. Dennan received, in the absence of Mr. Obré, a summons to view a dead body just withdrawn from the ornamental waters in Regent's Park.

The man was apparently *quite dead*, and was intensely cold, from having been immersed some minutes, and having struggled in the water for more than half

an hour. There was neither breathing nor heart's action, the pupils dilated, the jaws clenched, and the limbs contracted, so much so that the clothes had to be cut off before anything could be done to the patient.

A frothy mucus covered the mouth and nostrils; the body was much swollen; Mr. Dennan had it placed on an incline at an angle of about 35° ; as the body was so very cold, he commenced, with the assistance of the two men who brought him home, to try to restore warmth by degrees, rubbing the chest and limbs thoroughly and swiftly with ice and snow, cleansing the mouth and nostrils from time to time, and adopting Silvester's method of artificial respiration for more than two hours. After a quantity of frothy mucus was discharged slight signs of animation were perceptible, though faint.

Mr. Dennan then had him well wrapped in blankets, placing large tins of hot water at the feet, and mustard poultices on the chest, while the body was well rubbed with warm flannel under the blankets. This treatment was continued for three-quarters of an hour, at the same time continuing to imitate the movements of breathing. A decided improvement then took place. The patient's jaws relaxed, and he appeared to breathe more freely. Two teaspoonfuls of warm water were then administered, which caused him to vomit slightly. As soon as he commenced breathing freely he was able to take a little warm tea, which he apparently relished.

The patient was now placed in a warm bed prepared for him, soothed to sleep, and all undue excitement prevented.

The patient was feverish for one or two days, but on the following Friday Mr. Dennan had the pleasure of receiving a visit from him.

ART. 69.—*Amblyopia produced by Tobacco-Smoking.*

(*The Lancet*, March 16, 1867.)

M. Viardin has reported three cases of amblyopia caused by smoking. In the treatment of these cases the quantity of tobacco smoked was reduced under the direction of M. Viardin, and the sight was restored in the course of a few weeks.

ART. 70.—*Poisoning by Fleming's Tincture of Aconite; Recovery.*

Under the care of Dr. JOHNSON.

(*The Lancet*, February 23, 1867.)

The symptoms peculiar to poisoning by aconite were well marked in the following case, for the interesting particulars of which we are indebted to Dr. Fenn, house-physician:—

George W., aged sixty-one, a porter at the office of a Parcels Delivery Company, was admitted under the following circumstances, on the evening of the 7th of December, 1866. It appears that he was in his usual state of good health on the morning of that day, when about half-past twelve P. M., a box coming down the "slide" at the bottom of which he was standing, received such a jar that one of the bottles in it was broken, and some of the fluid ran through the box on to the counter. It had, he stated, something of the appearance and smell of brandy, so that he was induced to drink a tablespoonful or more (?). Immediately on swallowing it he felt a burning sensation in his mouth and throat, and shortly afterwards in his stomach, which was soon accompanied by a numbness and tingling of the lips and tongue. Half an hour after taking the fluid he vomited freely, and half an hour later began to complain of numbness and sense of weight in his extremities, which became very cold, and he was unable to raise them from the ground. His breathing shortly became hurried and labored; he retained his consciousness, though his son said he occasionally seemed to ramble; he complained also of pains running from his head through all his limbs. At four P. M. he was purged, and at six P. M. he was brought to the hospital.

When seen by the house-physician, he was lying on a table in the waiting-room: his face was flushed, and his conjunctivæ were injected; his hands and feet were cold and clammy; respiration labored, 36; pulse small and soft, 80; heart-sounds feeble; the mouth and beard were wet and frothy with saliva; pupils dilated. He complained of a burning sensation in his mouth and pain in the epigastrium; was very restless, frequently "drumming" the table with his feet, saying they felt like two heavy weights attached to his body. He was at once removed to bed, hot bottles being applied to the extremities, and hot brandy-and-water and coffee administered; he, however, vomited everything that he swallowed.—Nine P. M.: Lies in a sleepy condition, but can be easily roused; pulse 92, stronger; respiration easier, 32; complains of pain in his stomach, but there is no marked tenderness; numbness and sense of weight in the extremities less troublesome; pupils natural.

Dec. 8th.—No vomiting since ten P. M. last night. He complains of headache and numbness, with cramps in his legs and arms; slept fairly. From this time he rapidly recovered; the headache and pain in his stomach, and a slight stiffness, with cramps in the calves of his legs, of which he complained for a few days, gradually disappeared, and he was discharged well on the 15th of December.

As regards the poison swallowed by this man, it appeared on subsequent investigation that the box from which the fluid escaped contained four bottles, unlabelled; one of them had been broken, from which the fluid drunk had escaped, about four ounces of which left in the bottle was afterwards brought to the hospital, and it was at once recognized to be tincture of aconite. It produced numbness and tingling of the lips when rubbed on them. In reply to a letter sent to the medical practitioner to whom the box was directed, and who is said to be a homœopath, information was received that the broken bottle contained Fleming's tincture of aconite. As regards the exact quantity swallowed, the only guide is the man's own statement, to the effect that he put his mouth down to the counter and "supped up a tablespoonful or more."

ART. 71.—*Case of Lead-Poisoning.*

Under the care of Dr. WILKS.

(*Medical Times and Gazette*, February 9, 1867.)

The following case of lead-poisoning in a tailor, from biting his tape-measure, is of interest, because opinions differed as to the nature of the paralysis, and because the way in which the lead was introduced into the body is one which, so far as we know, has not been previously described:—

James P., aged thirty-three, came amongst Dr. Wilks's out-patients suffering from drop-wrist, general tremor, and other nervous symptoms. He was a tailor, in the cutting-out department, and was constantly using a heavy pair of shears. A medical opinion had already been given that the weakness of the arms was due to the use of this instrument, and was of the nature of "scrivener's palsy." On examining the man's gums, a distinct and well-marked blue line was observed, and he was consequently questioned about the possibility of lead-poisoning. On a thorough cross-examination as to his habits nothing could be elicited, but Dr. Wilks requested him to think over the matter during the ensuing week. At his next visit the mystery was solved. He said that, whilst engaged in his occupation of cutting out, he was in the habit of placing his measuring-tape in his mouth. This was covered, as usual, with an enamel of white lead. He had also got into the way of biting the tape, so that it soon became worn out, and he was obliged to have a new one every week or two. In fact, he used up several a year. He was ordered to be galvanized, and to take iodide of potassium. Under this treatment he soon began to improve; in two months' time he was able to resume his employment, and then slowly got well. His symptoms had been coming on for nine months, and for four months he had been quite incapacitated for work.

SECT. IV.—THERAPEUTICS.

ART. 72.—*Disinfectants.*

By E. D. MAPOTHER, M.D., Surgeon to St. Vincent's Hospital, Dublin, &c.

(*Lectures on Public Health.*)

Dr. Mapother refers, in his valuable and most interesting lectures on public health, delivered at the College of Surgeons, to some of the most reliable chemical substances for artificial disinfection of rooms and spaces where the seeds of disease may be supposed to linger. The doctor says, finely-powdered charcoal, obtained from animal substances, peat, or wood, has great disinfecting influence upon organic effluvia, and it should be hung in bags through the place which it is desirable to purify. It acts by the oxygen it condenses on its surface, which is so extensive that a cubic inch of charcoal is said to equal, in superficial extent, 100 square feet. Dried earth is said to have similar but much more feeble powers. Lime is useful in removing carbonic acid, and the watery vapor which contains the organic matter. Whitewashing is so desirable in point of cleanliness and cheerfulness, that Dr. Mapother is sorry to have a word to say in disparagement of it; but as many sanitary amateurs place their whole faith upon it, he impresses upon the profession that its sole action is to absorb carbonic acid, which, however, is not so pressingly necessary, as it so readily diffuses, and in small proportion is not very hurtful. He thinks a little chloride of lime might be added to the lime with advantage.

Dr. Mapother next alludes to Condry's fluid—a solution of permanganate of potash—which rapidly oxidizes organic matter: exposed in saucers, or thrown through the air as by a jet, it would very effectually purify the atmosphere, and if sprinkled upon the floor, might act in the same way. Sir William Burnett's solution of chloride of zinc is very active for a short time, but it loses its power of absorbing sulphuretted hydrogen when it becomes acid in reaction. Chlorine gas is the most effectual destroyer of sulphuretted hydrogen, as it rapidly unites with the hydrogen, precipitating the sulphur in fine powder, and of organic matter, which it bleaches, deodorizes, and probably decomposes by abstraction of hydrogen. The way to evolve it is to mix two tablespoonfuls of common salt, two teaspoonfuls of red-lead, and half a wineglassful of strong oil of vitriol in a quart of water. The bottle must be kept cool, tightly stoppered, and in a dark place. A little of this fluid exposed in a saucer, sprinkled on the floor, or soaked in sheets of old linen, and hung about the room, rapidly deodorizes and destroys effluvia. For disinfecting solids iodine has been much made use of latterly: with methylated spirit, its tincture can be prepared for about six or seven shillings a gallon. Bromine has been also recommended. Nitrous acid gas has a powerful oxidizing action on organic matter, and on sulphuretted hydrogen, but is objectionable on account of its own fumes, which often excite coughing. It is disengaged by heating nitric acid, to which a few copper slips are added, in a retort. In typhus and cholera, for the purpose of destroying, in rooms or on clothes, the animal emanations which constitute the poison of those diseases, no agent is more reliable. Either this gas or chlorine should be plentifully evolved in foul privies, especially during warm weather, and when dysentery or diarrhoea is prevailing. Sulphurous acid, made by throwing sulphur in a brazier of burning coals, has been used since the days of Homer for the purpose of disinfection, and it acts by preventing the growth of the lower forms of life. It is a most powerful destroyer of fetid gases, but it has the disadvantage of bleaching and rotting clothing. To purify water, boiling is the surest and simplest remedy: charcoal or magnetic oxide of iron is the best filtering medium. Condry's fluid may be safely added to drinking water, in the proportion of about a teaspoonful to a gallon, as an excellent way to remove organic matter. For cleansing cisterns, mechanical means—such as scraping if they be cement or stone, or charring with lighted shavings of wood—may be also used.

Carbolic acid, Dr. Mapother says, does not act by retarding oxidation, as Mr. Crookes has conclusively proved, but with regard to the fermentative process, "it not only arrests it instantly when in progress, but it prevents the development of future fermentation." While it does not interfere with purely chemical ferments, as diastase, it checks those which depend on, or at least are accompanied by the production of minute plants or animals. For the deodorization and disinfection of sewage and other manures, carbolic acid is most valuable, for while it checks the fermentation which wastes these valuable products, it causes the retention of the nitrogenous matters. The neutral metallic salts, chloride and sulphate of zinc, and sulphate of iron, are powerful in checking putrefaction, as was first proved by Falcony, who mixed the first with sawdust round dead bodies, and thus preserved them for months.

In speaking of the disinfection of clothes, Dr. Mapother says it was the late Dr. Henry of Manchester who, being called on to apply some method of disinfection to cotton supposed to be infected with the plague, suggested the use of heat, as that disease disappears when the temperature rises. He himself wore clothes from typhus and scarlatina patients after they had been exposed to a heat of 200°, and did not contract either disease, and vaccine lymph was rendered useless in the same way. Dry heat is superior to that of boiling water, as infected clothes are said to have communicated fever after they were immersed in that fluid.

Infection of Cabs.—Dr. Mapother has no doubt that small-pox and scarlatina are frequently contracted in cabs. A well-known London physician employed a cabman to take him to a patient's house. As he was alighting the driver said, "I think it's small-pox that ails the lady, for last week I brought her here just after I had left a case at the Small-pox Hospital." And such was her disease, and so contracted.

Advice in Cholera Time.—Dr. Mapother quotes some of the directions which were most extensively issued on the outbreak of cholera last year. After some information with regard to dispensary and hospital relief and treatment meanwhile, it was advised:—

"4. Keep the windows open, or partially so, not only in sick rooms, but in all rooms, even at night; sprinkle the floor with chloride of lime mixed with water; soak all clothes which may have been about the patient in the same mixture, and place some of the chloride of lime in any vessel which is to be used to receive the discharges from the patient, which should be then placed in the privy. Landlords of tenement houses should keep a supply of chloride of lime in the basement story and yard.

"5. While there is danger from cholera, every one's diet should be moderate—fruit, fish, or other foods not perfectly fresh, should be avoided. Great temperance should be observed, and the water used for drink should be previously boiled, and when cold tossed between vessels to restore its taste. Food should not be taken in the sick room, nor until the hands of those who have tended the sick have been washed with chloride of lime and water.

"6. All rooms and yards should be whitewashed, privies and ashpits cleansed, collections of filth or stagnant water removed, and the openings of sewers trapped with water valves."

ART. 73.—*Nature of Disinfectants.*

(*The Lancet*, February 16, 1867.)

At a recent meeting of the French academy, M. Chevreul made some very interesting remarks on the subject of disinfectants. The French chemist thinks some of our more common disinfectants of very little value. He tabulates his conclusions as follows: 1. Two volumes of sulphuretted hydrogen and one volume of sulphurous acid with vapor give rise to water and sulphur; in other words, two odorous and deleterious substances became converted into two inodorous and harmless ones. 2. Equal volumes of hydrochloric acid gas and ammonia form a compound which is neutral as to acidity or alkalinity, although the gases remain unaltered. 3. In the reaction of three volumes of chlorine on

eight volumes of ammonia, two volumes of the latter are destroyed, and six are simple neutralized. There are some substances which *seem* to neutralize the disagreeable smells of organic matter, and which really act in quite a different manner. Phenic acid, according M. Chevreul's inquiries, when placed in contact with organic matter giving off offensive odors, neither destroys them nor neutralizes them, but, by combining with them and forming a compound incapable of giving off offensive emanations, arrests *putrefaction*.

ART. 74.—*Eating too Little.*

By THOS. KING CHAMBERS, M. D.

(*The Indigestions or Diseases of the Digestive Organs Functionally Treated.*)

Too little to eat is a cause of dyspepsia familiar to medical men who have practised among the lower classes. Eating too little, Dr. Chambers says, is not exactly a synonym, for it is found, and by no means rarely, among those with whom it is not involuntary. The following case is given in illustration: The Rev. J. S., aged forty-eight, told Dr. Chambers that when reading hard for his degree at the University he first became sensible of pain after eating. His theory was that he ought to eat less; and so he did, less and less; and, with the hope of working a cure all at once, actually lived a whole year on bread and water only. In consequence he was troubled with flatulence, debility, and frequent attacks of palpitation of the heart. The pulse was uneven, and occasionally intermittent. A generous animalized diet, taken frequently, with wine, quinine, and strychnine, while at the same time the oversensitive nerves were deadened by opium and hydrocyanic acid, enabled Dr. Chambers to allow him to return home in ten days.

ART. 75.—*Tight-Lacing.*

By THOMAS KING CHAMBERS, M. D.

(*The Indigestions or Diseases of the Digestive Organs Functionally Treated.*)

The organ which suffers most from this baneful habit is said by Dr. Chambers to be the unresisting stomach, which is dragged and pushed out of all form during the continuance of this packing process. The longer the continuance the more it suffers. If it is constant we get cases like the following: "Emily K., aged sixteen, was a full-grown woman in form, and had been catamenial for three years: but when admitted to St. Mary's in March, 1864, she was still wearing an old tough black pair of stays made for her when a child. The consequence was that she had never been thoroughly well all that time. The catamenia occurred every three weeks, and, for a girl of her age, were at first profuse, lasting six days; but latterly they had lasted only three days. She had constant pain after eating, frequent vomiting, and frequent rising of food in the throat, on which latter occasions it was sometimes tinged with blood, especially at the menstrual periods. This constant ill-health had made her thin and hysterical, but her lungs, heart, and indeed all the solid organs, seemed perfectly normal. When admitted she was vomiting all her meals. At first she had hydrocyanic acid, but was no better in any respect for it; but on the 6th of April she was put upon a course of cold shower baths every morning, with valerian three times a day. This, with the removal of the obnoxious stays, seems to have been immediately effectual, for on the 12th it is reported she had not vomited for two days, and on the 18th she was discharged 'cured.'"

Dr. Chambers remarks, "'Cured'—of her stays. Easy task in such a case as the above, but presenting insuperable difficulties much more often. Women have a very strong wont."

ART. 76.—*Respiratory Therapeutics; or, the Bronchial Passages compared with the Gastric Passages for the better Administration of Medicinal Agents.*

M. BÉCLARD and Dr. SALES-GIRONS.

(*Gazette Hebdomadaire*, No. 10, 1867.)

M. Béclard, in a report to the Académie de Médecine, stated that the method of treatment of Dr. Sales-Girons consists in the applying to the mucous membrane of the bronchi, not gases and vapors, but solutions charged with the active principles of the medicinal remedy, and suspended in the inspired air by means of *pulverization*.

The important question is, whether the pulverized liquid does really pass through the bronchi as far as their ultimate divisions. From the remarkable report of M. Poggiale, and from the experiments of M. Démarquay, there does not remain the least doubt concerning the extent of penetration; it has for some time been demonstrated as a fact; and the improved pulverizing apparatus of Dr. Sales-Girons facilitates and is likely to establish this method of introducing powdered liquids.

The bronchial tubes, although they are angular and diminish in their calibre, will certainly receive along the whole of their extent the powder when reduced to the state of mist and vapor. There are superabundant proofs of the assertion that this pulverization extends to the very ends of the bronchial ramification.

It is an indisputable fact, also, that there are few surfaces more endowed with the power of absorption than the pulmonary mucous membrane. Between the substance that is to be absorbed and the circulating blood there is no intermediate tissue to speak of; so that liquids, when introduced into the lungs, disappear there with amazing rapidity. More than twenty-five pints of water can be injected into the bronchi of a horse in six hours, and absorbed without perceptible injury to the animal. It is known to all physiologists that in introducing a liquid solution into the body, there is no method so sure and prompt as that of applying it to the bronchial passages.

After these facts gained from experience, physiologists may agree with Dr. Sales-Girons in the proposition that the respiratory mucous membrane is really superior to every other mucous membrane in its capability of absorbing medicinal agents. In less than half a minute the whole mass of the blood passes globule after globule through it, so that the absorbed remedy may be in contact with all the elements of the blood in that short space of time.

It follows from these facts, that in comparison with the digestive passages, the bronchial passages are in all respects indicated for the absorption of medicinal remedies. The stomach of a horse may contain, after the pyloric end has been tied, a solution of strychnine for twenty-four hours without there being any symptoms of poisoning (Bouley). Absorption is active in the small intestine, but less so than in the bronchi.

Dr. Sales-Girons uses only active agents in this method of medication, such as the alkaloids, and particularly sulphate of quinine, in cases of intermittent fever, the successful use of which he relates in a case of remarkable cure. So long as physiology has testified in favor of the idea, therapeutics will not fail to produce from it favorable results.

Dr. Sales-Girons states that he administers a drop of the solution in each voluntary inspiration, and in the course of five minutes a sufficient dose can be given; this sitting may be repeated, if necessary, two or three times in the twenty-four hours.

To what forms of disease is this application suitable? Is it in those which enter into the organism by the pulmonary passages, according to the principle established by Dr. Sales-Girons in these words: "*Quantum valeat organum ad absorptionem morbis tantum valeat ad absorptionem remedii?*" M. Béclard thinks that it would be unwise to reply to this question before clinical experience has given its verdict.

ART. 77.—*Physiological Properties and Therapeutic Action of Veratrum Viride.*

(*New York Medical Record*; and *British Medical Journal*, Jan. 26, 1867.)

Dr. L. C. Butler, in a paper read before the Vermont Medical Society, at the last annual meeting, thus sums up the knowledge gained concerning *veratrum viride*:—1. The tincture made by macerating eight ounces of the fresh-dried root in one pint of alcohol for a week, and Thayer's fluid extract, are the most reliable and preferable preparations for its administration. 2. The dose of the tincture is five to ten drops, of the extract two to four drops, varied according to the urgency of the symptoms, the age and strength of the patient, and repeated at intervals of one to four hours. 3. It is not necessary to push the remedy so far as to produce emesis or catharsis. Its full effects are usually reached without either of these results. 4. *Veratrum* is essentially an arterial and nervous sedative, whether employed by itself or in combination with other agents. 5. It is as safe a remedy as any we possess, only requiring the ordinary degree of caution in its employment, and, like the majority of our remedial agents, liable to fail in special cases of peculiar idiosyncrasy or of wrong diagnosis. 6. It is equally applicable in the treatment of low forms of fever, and those of an inflammatory type; in the former it is to be preferred to the lancet, and relieves without depriving the patient of any portion of the vital fluid, while in the latter, the better its remedial properties are understood, the less frequently will the lancet be employed.

ART. 78.—*Iodide of Potassium as a Remedy in Erysipelas.*

(*Chicago Med. Journal*; and *British Med. Journal*, February 2, 1867.)

Dr. H. B. Withers, of Rantoul, Illinois, states that he has used iodide of potassium in about thirty cases of erysipelas with perfect success. It arrested the disease in from twelve to thirty six hours. He gives usually ten grains every two hours, observing closely the effect. As soon as the disease begins to subside, the medicine is discontinued. No external application is used, but the parts are simply kept covered and moist. Dr. Withers does not recommend it as a specific, but considers it a very valuable remedy in the disease.

ART. 79.—*Bromide of Potassium in Epileptiform Seizures.*

(*Medical Times and Gazette*, January 12, 1867.)

The following curious case, but of a kind not uncommonly noticed, was lately under Dr. Reynolds's care. The patient, a young woman, had for some years been troubled with epileptiform seizures when she applied for relief. Under treatment by bromide of potassium she rapidly improved; but as the original disease disappeared, an acneiform affection of the skin showed itself. The bromide was discontinued, and Fowler's solution of arsenic was given in the usual doses; but as the skin disease passed away, attacks similar to those she had previously suffered from again came on, and this sort of ringing the changes has been in progress for some time. The girl is a worker in gold lace, and the disease may have some reference to her occupation. What relation there may be, however, cannot clearly be made out. *Apropos* of the bromide in epileptiform seizures, we may add that Dr. Reynolds and his colleagues at the Hospital for Epilepsy and Paralysis prescribe this medicine largely. From what we have ourselves seen, it seems to be most useful in keeping away the fits, but they frequently return when the drug is given up. It is important to give it in large doses, ten to thirty grains.

ART. 80.—*Bromide of Potassium in Epilepsy.**(British Medical Journal, March 23, 1867.)*

The bromide of potassium, says M. Voisin, in the *Bulletin de Thérapeutique*, is hyposthenic, calming, hypnotic, and slightly alterative; it is of real utility in epilepsy. It does not usually cure absolutely; but it diminishes the disorder in a marked degree; it lessens and even suppresses the nervous erethism of epileptics—the shocks and convulsions which they so frequently endure.

ART. 81.—*The Therapeutic Value of Subnitrate of Bismuth.**(Bulletin de Thérapeutique, vol. lxxvii.; and British Medical Journal, March 23, 1867.)*

M. Monneret has devoted great attention to the medicinal uses of bismuth, of which he has had very great experience. He insists on the absolute necessity of great doses in order to obtain from this salt of bismuth its true value in therapeutics; and affirms, as the result of his experience, that several morbid conditions external to the digestive tube—of the skin, for example, the genito-urinary organs of both sexes, *ozæna*, &c.—are favorably influenced by bismuth in powder. Such is the confidence of the learned professor in this powder, that he would have the practitioner keep it constantly at hand, to respond at all times to the indications which call for it.

ART. 82.—*Digitalis in Typhoid Fever.**(Répertoire de Pharmacie, Février, 1867; and British Medical Journal, March 23, 1867.)*

M. Liederich has taken for his text the words of Professor Hirtz: "Digitalis is, up to a certain point, a specific for a symptomatic fever, in the same way as sulphate of quinine is for intermittent fever." In order to prove this proposition, he has studied the action of medicines upon the different organs whose functions are disturbed by the fever. The temperature is first influenced; it undergoes two lowerings; the one preparatory, the other principal. In a short time the pulse falls to the normal number of pulsations, and even below. The amount of digitalis to be employed is lessened as the illness proceeds. M. Liederich descants on the treatment to be employed for the accidents caused by the use of digitalis—the vomitings and the digitalic collapse which sometimes occur, without the possibility of prevention. He by no means advocates the use of digitalis in all cases of symptomatic fever, and indicates those in which the antipyretic method might prove injurious. The ataxic form seems to be the one in which the use of this medicine is most distinctly called for. Some of Mr. Hirtz's observations are shown in the form of tables, given on the different days of the attack, the modifications of the pulse, and the temperature during remissions and exacerbations, whilst under the influence of the digitalis. As the fever abates so do its concomitant nervous phenomena, cephalalgia and delirium.

ART. 83.—*On the Examination of Diabetic Urine: New Reagent for Glucose.**(Gazette Médicale; and Chemical News.)*

After noticing the several reagents used, and pointing out their special inconveniences, MM. Francqui and Van de Vyvere propose a solution containing oxide of bismuth. The following process cannot, they say, give rise to any fallacy. Prepare the reagent by precipitating a solution of acid nitrate of bismuth by a great excess of caustic potash; and pour a solution, drop by drop,

into the moderately-heated solution until the precipitated hydrate of bismuth is completely redissolved. To recognize a diabetic urine, heat a portion with the above solution. After a few minutes' ebullition, the urine becomes brown, and metallic bismuth is then precipitated in the form of a black powder of crystalline appearance, adherent to the glass if glucose be present. They have satisfied themselves that the principles contained in normal urine, such as urea and uric acid, do not precipitate the above reagent. Albumen only causes a brown color and a slight turbidity, which they consider to be due to the formation of sulphide of bismuth. Sulphuretted urines also give a black precipitate in a solution of oxide of bismuth in potash and tartaric acid; but this reaction cannot be confounded with that caused by glucose. It is, besides, easy to recognize and (if desired) to separate the albumen. Thus, on bringing to ebullition the urine of a person suffering from Bright's disease, the liquid becomes turbid, opalescent, and deposits coagulated albumen. Sulphides and sulphuretted hydrogen are easily recognized by means of hydrate of lead, which these compounds darken.

ART. 84.—*Pruritus Pudendi successfully treated by Sulphite of Soda.*

By SAMUEL B. FRIZELL, M. D.

(*American Journal of Medical Sciences*, January, 1867.)

In September, 1866, Dr. Frizell was consulted by a lady suffering from pruritus pudendi following menstruation, accompanied with great irritation and much pain. Having read of the influence of sulphite of soda on sycosis menti, the idea suggested itself to him of trying the same in this case. He accordingly prescribed for her the following local application: Sodæ sulphis. ʒj, aquæ ʒiij, glycerinæ ʒj, misce, which was to be used very often. In three days no trace of the disease was apparent.

ART. 85.—*Tænia Solium successfully treated by Turpentine.*

By CHARLES C. SHOYER, M. D.

(*American Journal of Medical Sciences*, January, 1867.)

A clergyman who had been troubled with tænia for four and a half years, and had been subjected to various remedies, applied to Dr. Shoyer. He ordered half an ounce of ol. terebinthinæ to be taken at ten A. M., fasting, and a half ounce at one P. M., an interval of three hours; directing half an ounce of ol. ricini at half-past one o'clock; this last was superfluous, for in ten minutes after taking the second dose of turpentine the worm was expelled entire in a mass, and proved to be fifteen feet long. The remedy caused slight intoxication and strangury, which speedily passed off.

ART. 86.—*Sulphite of Soda in Smallpox.*

(*American Journal of Medical Sciences*, January, 1867.)

Dr. W. L. Nichol states that he has employed the sulphite of soda in smallpox with advantage. He gave it in solution, in proportion of one drachm of the salt to six ounces of water. A tablespoonful of this was given every three hours.

ART. 87.—*Croup treated by Sulphur.*

(*Gaz. Méd. de Paris; Journ. de Méd. de Bruxelles*, Nov. 1866; and *British Medical Journal*, January 19, 1867.)

M. Laganterie, from observing the effect of sulphur on the oidium of vines, has been led to administer it in several cases of croup. He mixes a teaspoonful in a glass of water, and gives the mixture in teaspoonful doses every hour; the

effect he describes as wonderful. The disease is, in effect, cured in two days; the only symptom remaining being a cough arising from the presence of loose pieces of false membrane in the trachea. M. Lagauterie says that he has followed this plan in seven cases; all being severe, especially the last, in which the child was cyanotic, with protruded rolling eyes, and noisy respiration.

ART. 88.—*Koorchee for Acute Dysentery.*

(*Indian Medical Gazette*; and *British Medical Journal*, January 19, 1867.)

A. C. Kastogree, sub-assistant-surgeon, Burrisaul, describes an acute case of dysentery in a child fifteen months old, in which ipecacuanha failed. He endeavored to get a drug which, without irritating the stomach, would specifically act on the diseased intestine, and fortunately he pitched upon koorchee. This is the bark of the *Wrightia antidysenterica*, growing in jungles as large trees, indigenous in most parts of Bengal. Its seed is the famous *indro-job*, used as a vermifuge by the natives, and in the last cattle-plague of Backergunge extensively used as possessing certain specific virtues. A fresh decoction of the bark of this plant, in the proportion of two ounces of the bark to two pints of water, boiled down to half, was given to the child in four-drachm doses four times a day, with a drop of laudanum in each dose. The effect of this was plainly marked, after seven or eight doses had been taken; in two days the number and quality of the stools became changed; in place of blood and slime, fecal matter was discharged, and from that time the patient gradually recovered. The child subsequently suffered with bilious diarrhoea, which also defied all astringents, but was finally removed by extract of logwood in four-grain doses, three times a day. In acute dysentery, with great irritability of the stomach, where the use of ipecacuanha is worse than useless, the native koorchee is its appropriate substitute.

ART. 89.—*On the Use of the Sulphate of Magnesia in the Treatment of Zymotic Diseases.*

By H. R. DE RICCI.

(*Dublin Quarterly Journal of Medical Science*, Nov. 1866; and *Brit. and For. Med.-Chir. Review*, April, 1867.)

M. de Ricci thinks that the want of success which has sometimes been observed in the treatment of zymotic diseases by the alkaline and earthy sulphites is attributable to the fact that these remedies have not been administered early enough. If the treatment is too long delayed, the blood becomes so loaded with poison, and deteriorated in quality, as to be no longer able to perform its normal function, and then the sulphites are of no more service than any other remedies, because they cannot restore to life the dead blood-corpuscles. The sulphites should therefore be administered early, while still a large portion of the blood is in a healthy state, and capable not only of carrying on life, but of throwing off what has been rendered inert by the presence of the sulphurous acid. M. de Ricci attributes another source of failure to the administration of hyposulphite of soda, instead of the sulphites, and especially the sulphite of magnesia. The hyposulphite of soda is less efficacious than the sulphites, because in the former the greater part of the acid becomes oxidized in its passage through the animal economy, and appears in the urine as a sulphate, because, being a salt of hyposulphurous acid, it is a less active anti-zymotic, and because it often causes troublesome diarrhoea, while the sulphites of soda and magnesia never produce such effects. M. de Ricci prefers the magnesium salt for internal administration, as it is less unpalatable, and contains a larger proportional quantity of acid than the soda-salt; but he uses the sulphite of soda for external application, because, from its greater solubility, a stronger lotion may be made with it. The sulphites of potash, lime, and ammonia are also active anti-zymotics; but they are in no way superior to the salts of mag-

nesia and soda, while their very noxious taste renders them objectionable. M. de Ricci relates some cases illustrating the efficacy of the sulphites, and he concludes his paper by predicting that eventually the treatment of zymotic diseases by the administration of the sulphites will be as fully recognized as that of ague by cinchona.

ART. 90.—*The Mode of Action of Digitalis.*

By Dr. LEGROUX.

(*Gazette Hebdomadaire*, No. 11, 1867.)

Dr. Legroux concludes an elaborate essay upon "Digitalis and its Mode of Action," with the following brief recapitulation of the principal facts gleaned in his researches:—

1. Digitalis, the active principle of which is digitaline, when given in any dose, has a special action upon the circulation.

2. Although digitalis may act directly upon the heart when given in poisonous doses, it seems, when given as a therapeutic agent in small quantities, to excite primarily the capillaries; the central organs of circulation being secondarily affecting in re-establishing the equilibrium of the circulation.

3. If this theory be accepted, digitalis is a sedative of the circulation in the sense that it calms its disturbed action; but it exerts an exciting and tonic, and not an hyposthenic action, as is generally admitted.

4. The influence of digitalis upon the temperature, the secretions, nutrition, uterine contractions and hæmorrhage, can only be explained by the drug acting as an excitant upon the terminal filaments of the sympathetic.

6. This theory fully accounts for the favorable results obtained by digitalis in fever, cerebral affections, dysmenorrhœa, congestion, anasarca, and the disorders of the circulation due to lesions of the heart.

ART. 91.—*Mudar, a Substitute for Ipecacuanha in the Treatment of Dysentery.*

(*Pharmaceutical Journal*, April; and *Amer. Journ. of Medical Sciences*.)

Mr. J. J. Durant states (*Indian Med. Gazette*), that he has found the powder of the bark of the root of mudar (*Calotropis gigantea*) an excellent substitute for ipecacuanha in the treatment of dysentery amongst the native population. In every acute case in which he prescribed mudar it either effected a complete cure in a few days, or at once changed the character of the disease from bloody and mucous to bilious diarrhœa. He administers it in similar doses to what are usually given of ipecacuanha, never beginning with less than one scruple, and seldom going beyond one drachm. He usually gives it alone, but when a weak stomach is suspected in the patient he combines it with carbonate of soda, creasote, bismuth, prussic acid, &c. Like ipecacuanha, mudar, in large doses, is a reliable cholagogue; it is also a sedative to the muscular fibres of the intestines, particularly of the rectum and colon, rapidly allaying all pain, tenesmus, and irritation, and putting a stop to dysenteric action. Its most marked effect is the production of a copious flow of bile, which follows its use in about twenty-four hours.

ART. 92.—*On the Use of Subnitrate of Bismuth.*

By Dr. BRASSAC.

(*Archives de Médecine Navale*, March, April, May, 1866; and *Gazette Hebdomadaire*, No. 9, 1867.)

This salt is much praised by M. Brassac, who has frequently employed it in warm climates and on board ship in large doses, as recommended by M. Monnerat. He first insists upon the necessity of purifying this medicine of con-

siderable quantities of arsenic contained in it, which must be done if the medicine be prescribed in large doses; the methods of recognizing the presence of arsenic and of removing it are described. This salt dries up the buccal and gastric mucous membrane, diminishes the appetite temporarily, and causes constipation. It has no effect upon the temperature, the pulse, or the secretions. It remains for a short time in the stomach and small intestines of the patient, but stays longer in the large intestines, the mucous membrane of which it stains black; it is retained by ulcerations, which it covers over and defends from the action of irritating fluids, and thus favors cicatrization: by it fecal matter is solidified and disinfected. When the sub-salt is not sulphurous it fails in its therapeutical action. Applied externally, it acts as an absorbent, not as a disinfectant. Its action surpasses that of all other remedies in the epidemic dysentery of warm countries, where it is given in quantities of from 15 to 70 grammes daily. M. Brassic has obtained from its use equally good results in the treatment of acute or chronic, severe or mild dysentery. It acts from the commencement upon the ulcers, and allows a prompt recourse to nourishment, the only means of treating the general malady and the cachectic condition of the patient. The subnitrate of bismuth is also useful in cases of diarrhoea, particularly when it affects infants, when it is quickly cured by doses of from 15 to 20 grammes. It succeeds equally well in regulating the stools in the colliquative and putrid diarrhoeas of phthisis or severe fever. In diseases of the stomach (in which it is better to use arsenicated bismuth), although it may not do so much service, it will yet relieve the disturbed digestion of anæmic patients by modifying the pain; it has also the same effect in nervous sympathetic vomiting. In other diseases mentioned by M. Brassac, the sub-salt does not appear to act so favorably in large doses. He mentions, finally, that it acts surely and safely in cases of glycosuric urine. When applied externally, it acts beneficially upon phagedenic ulceration, burns, fissures of the anus, excoriated fissure in the breast, when forming by chafing, blennorrhagia, vaginal discharges, and in chronic eczema.

ART. 93.—*Treatment of Hæmaturia by Balsam of Copaiba.*

By Dr. BRUZELIUS.

(*Hygeia, Supplemtheft zu Band xxvi.; Schmidt's Jahrbücher*, No. 12, 1866.)

The patient was an anæmic woman, fifty-two years of age, who had been living under bad hygienic conditions, and had ceased to menstruate three years before; she had always been a healthy woman, and had never been affected with hæmorrhage from any other organ. Blood-stained urine was the only morbid symptom presented by this patient, and it was difficult to determine from what part of the urinary track it came. The amount of blood varied at different times, and occasionally almost wholly disappeared, the urine looking like the washings of flesh. From microscopic examination of the deposit no ulcerative processes could be demonstrated in the urinary passages. The kidneys and bladder were not tender on pressure, and a sound could be easily passed without giving pain. The patient kept her bed for one month, during which time all the usual remedies were tried, but without success. The hæmorrhage, however, very soon ceased after balsam of copaiba had been prescribed in doses of forty drops, to be taken three times in the day; the same result took place when, in consequence of the hæmorrhage returning after the use of the medicine had been suspended for a few days, it was prescribed a second time. It was by the use of balsam of copaiba that a permanent cure was attained. Turpentine, so frequently used as a hæmostatic, certainly had in this case good effect after it had been given for two or three days, but the digestion of the patient became so affected that its use was obliged to be suspended, and recourse was again had to the balsam of copaiba.

Prof. Malmsten states that he has seen a similar result which followed the use of copaiba alone in a woman who was suffering from hæmaturia which had its origin probably in varicose vessels in the bladder.

ART. 94.—On the Treatment of Delirium Tremens by Indian Hemp.

By HENRY J. TYRRELL, F.R.C.S.L. M.R.I.A., &c., Surgeon to Jervis Street Hospital.

(*The Medical Press and Circular*, March 13, 1867.)

Mr. J. K., aged forty, was admitted into Jervis-street Hospital on the 15th of January last.

Upon examination I found him in a very excited, nervous condition: his pulse 90, very weak and compressible, pupils dilated, tongue covered with a white creamy fur, stomach very irritable, bowels confined, urine scanty and high colored—sp. gr. 1020—skin cool but sweating; although he had no sleep for the last three nights, still he was quite rational, and gave me the history of his case (which in this country is a very interesting and unusual one) with great accuracy and minuteness. He said he was not an habitual drunkard, and remains as long as eighteen months without tasting any kind of spirit, but that when the desire for drink comes he is unable to resist it. Some years ago, to avoid taking any, he commenced to use opium, and soon he required as much as four ounces of the tincture daily, to keep up the excitement which was requisite to enable him to pursue his profession as a newspaper editor. At no time did the opium produce a soporific effect. As the opium was undermining his constitution he gave it up about a year ago, and was a strict temperance man until about a month before he came to hospital, but during the last month he consumed a quart of brandy daily. He stated that he had had delirium tremens twice, and that on each occasion the Indian hemp cured him, and if I wrote to Dr. White, of Downpatrick, under whose care he had been, I would find he was speaking the truth.

As the use of opium was out of the question in the present case, I determined to give the capsicum treatment a trial, and accordingly I ordered two boluses, each containing thirty grains of capsicum—one to be given every third hour. His stomach rejected the first, the second he did not vomit; they did not give any relief, as on the next day, the 16th, he was much worse in every respect, had no sleep, and his mind was evidently affected. I ordered him three draughts, each containing mx of the tincture of cannabis indica, one to be taken every third hour. He had the first at four P. M.; after the second he became very excited; at eleven P. M. he got the third, and at one A. M. he fell into a deep sleep, which lasted about four hours.

When I saw him at ten A. M. on the 17th, he was quite a different man; the nervous excitement was gone; he expressed himself as quite well, but very weak and hungry. During the day he drank two pints of strong beef-tea, and in the evening he took another draught, as he was afraid he would not sleep without it.

He remained in hospital two days longer to recruit his health, and left on the 20th quite well. As the treatment by the Indian hemp was so satisfactory, I wrote to Dr. White to test the truth of Mr. K.'s statement, and he kindly informed me that he treated Mr. K. on two occasions with the Indian hemp, and that the effect was marvellous. The dose he gave was forty drops every hour and a half, and that he was obliged to increase it to eighty drops before sleep was produced—altogether he used in the first attack one ounce, and in the second a little more of the tincture.

Whether there was a difference in the strength of the tincture, or that the attack for which I treated him was only beginning, it is remarkable that mlx was only required.

I am not aware that the use of Indian hemp has been adopted in delirium tremens, at least I do not find it mentioned in the books I have consulted; and I certainly would not have prescribed it, had not the patient mentioned its use to me; and although opium-eating is very uncommon in this country, at least in hospital patients, still it is of great importance to have a medicine which may be used instead of it, when that drug is unsuited from idiosyncrasy or any other cause.

ART. 95.—*The Permanganate of Potash in the Treatment of Carbuncle.*

By THAD. L. LEAVITT, M. D., of Germantown, Pa.

(American Journal of Medical Sciences, January, 1867.)

The beneficial effects accruing from the local use of the permanganate of potash in the treatment of sloughing ulcers, phlegmonous erysipelas, and hospital gangrene, having been most thoroughly tested and proved during the last year of the war, in army hospital life, it occurred to Dr. Leavitt that its peculiar remedial qualities would alike prove successful in that most painful and distressing lesion, carbuncle, originating as it also does from a depressed vitality, and a morbid condition of the blood. The most satisfactory and encouraging results have been obtained in the only cases in which he has had an opportunity to employ it.

The following cases are given:—

Mrs. R., æt. about sixty years, was visited, during the absence from town of her family physician, and found suffering terribly from a carbuncle located upon the left shoulder-blade, just above the spine of the scapula, and occupying the supra-spinous fossa. Loss of sleep, constant pain, and a naturally nervous temperament combined, induced a mental disturbance almost amounting to delirium. The tumor was in its sixth day, with all the general accompaniments, of the size of a hen's egg, tumid, tense, and shining. A free crucial incision had been made two days before, but with no relief; dense areolar tissue, puffy granulations, and sanious oozings crowded the track of the knife, with no appearance of separation or healthy action. The pulse was quick and compressible, 110 beats in the minute; countenance anxious and expressive of great pain. Bowels regular. A strong solution of the permanganate of potash ($3ss$ to $f\bar{3}j$) was immediately applied with a brush, and a dressing saturated with it, covered with oiled silk, placed upon the shoulder. Anodynes, beef-tea, milk-punch, tincture of the chloride of iron, and quinia were administered. The same evening the patient was again seen, and expressed herself as feeling much relieved; pulse 98, and gaining in volume and elasticity. The next morning the dressing was removed, and already, although but twenty-five hours had elapsed, true pus had begun to form, the intense pain had subsided, and the patient, to use her own language, declared it "a miracle;" the pain had vanished, the fever was gone; she had slept well, and felt some appetite for food. A few days longer the potash was continued; the slough separated, and the wound healed in the short space of one week.

Mr. C., æt. fifty years, shoemaker, was visited July 30th, 1866. Had been sick three days; was found suffering intensely from a carbuncle situated upon the abdomen just below the umbilicus, of the size of a large walnut, and involving the surrounding structures in an erysipelatous inflammation. Bowels constipated; high fever; pulse 120; heavy breath; tongue furred; anxious countenance; great restlessness and general uneasiness characterized his principal symptoms. Hop and laudanum poultices had been applied, but he had been gradually growing worse, and approaching the condition described, the tumor increasing daily, the parts becoming more dense, and at last an ichorous pus exuded from several small openings. Mild purgation, after which supporting and stimulant treatment was instituted. A slight incision was made, and the permanganate applied, as in the previous case, the dressings being removed once in twenty-four hours. This case was seen seven days successively; the 13th of August he returned to his work, the severity of the suffering having been arrested after the first application.

Mrs. A., æt. about forty-nine years, having suffered a few days from a supposed furuncle, and the pain becoming intolerable, called in medical aid. There was found upon the inner face of the left thigh, just below the nates, a well-marked though small carbuncle; a very slight incision was made and the potash dressing used. No constitutional treatment at all was inaugurated; in three days all signs of carbuncle had disappeared, and the line of incision was healing nicely.

The following case of many years' duration, and which had resisted all efforts, yielded to the remedial properties of this preparation:—

Arthur M., tavern-keeper, æt. forty-five years, had a chronic indurated ulcer of sixteen years' standing, extending over the superior face of the right leg about four

inches below the tubercle of the tibia, and spreading backward on both sides to the malleoli, covering a surface of about twenty-eight square inches, deep and burrowing in some localities, and in others merely superficial; the whole leg and foot were much swollen and anasarcons, the toes merely protruding from a shapeless mass of flesh closely resembling the foot of a young elephant. An ichorous discharge of a horribly offensive character, together with filthy dressings, augmented the destruction of the surrounding parts.

The advice of an eminent surgeon had been secured a few weeks previously, to the effect that but one alternative remained, amputation; and indeed all appearances favored such a decision. Proper abstinence, tincture of iron, and good diet were directed. The local use of a strong solution of the permanganate of potash and judicious bandaging have already done so much for this case that, at the date of writing, the tenth application of the potash, six square inches will more than cover the small amount of ulceration remaining, so rapid have been the healing process and the formation of firm healthy tissue; and, in a few days more, we can confidently prognosticate a complete cure.

ART. 96.—*Bromide of Potassium in Epilepsy.*

By HORACE Y. EVANS, M. D.

(*American Journal of Medical Sciences*, January, 1867.)

Dr. Evans relates the three following cases of this disease out of eight within his knowledge, treated with the bromides:—

CASE 1.—Farmer, set. thirty, living in a miasmatic region. Enjoyed perfect health until attacked with ague; was treated with quinia, and the chills checked. Then followed convulsions, which at first resembled, as far as the pulse was concerned, apoplexy, but soon became clearly epileptic. The attacks returned at irregular intervals of from seven to ten days. He had been carefully treated with remedies such as the symptoms from time to time indicated. When he came under my care he was using tonics and alteratives, and ice-bag to the spine. His pulse was 98, full and strong, tongue furred, bowels sluggish, disgust for food, very restless, severe headache, and marked mental confusion. I continued the ice-bag to his spine half an hour daily, ordered saline purge every day, and farinaceous diet. He was very soon visited by another convulsion, which left him in a dull melancholy condition, severe headache and insomnia, but no paralysis; commenced next day with the bromide of potassium, gr. xv, three times a day; continued the saline mixture, ice-bag, and restricted diet. An improvement in all the symptoms commenced within twelve hours, and at the expiration of four weeks the patient was apparently well; there was no return, or tendency to return, of the convulsion. All treatment was then omitted, and at the expiration of seven weeks from the commencement of the treatment, considering himself well, he returned to the use of animal food, which was followed within ten hours by the most severe epileptic fit of any that he had had, and two days later by another. He then returned to the city, and was again put upon the use of the bromide and the ice-bag. As at first, the improvement was rapid, and at the expiration of a fortnight, without my consent, omitted all treatment. He returned to the country, used promiscuous diet, and has now passed through the fever season of the locality without ague or convulsions. Says he was never in better health than at present.

CASE 2.—G. M., a young man twenty-one years of age, apparently in a good physical condition, has had epileptic convulsions for the past fifteen years, and at the time of commencing his treatment (March, 1866) he was having, on an average, three attacks a day. He was ordered a saline purge twice a week, ice-bag to spine one hour daily; bromide of potassium, gr. xx, three times a day, and total abstinence from animal food. The interruption in the attacks was immediate; he continued without even an "aura," or any other evidence of the presence of the disease for nine consecutive weeks.

The peculiar effects of the bromine, named by Bazire bromism, having now become developed, the drug was omitted for two days, Huxham's tincture of bark and a more liberal diet substituted. Before the end of the second day a severe convulsion returned, and was followed by numerous aura epileptica, or minor "spells." The bromide was immediately resumed, and its use continued for three weeks without a return of the disease. The increased flow of saliva, sore throat and restlessness again

gave premonitions of the return of bromism. The dose was now reduced to gr. x, *ter die*. Again the lurking foe took advantage of the truce and made several sorties, which were repulsed by the bromide of ammonium, with the iodide of potassium as an ally. Another month now elapsed without an attack, but the combination last used became so offensive to him that it had to be omitted, and the bromide of potassium resumed in gr. xx doses, which is now (November,) being used with results beyond the most sanguine anticipations.

CASE 8.—Mrs. S. B., *æt.* twenty-eight, the mother of two children. Insanity and epilepsy in her family. After a serious family trouble, was attacked with convulsions at intervals of a fortnight. The disease was diagnosed hysterical epilepsy, chiefly on account of the long duration of the convulsion. The usual treatment for hysteria scarcely palliated the insomnia and almost delirium during the intervals. Having seen an account of Locock's treatment of this disease with the bromide of potassium, I was induced to give it a trial. She commenced with gr. xx doses three times a day, and an additional dose at night, if necessary, to produce sleep. Within a week every vestige of the disease had vanished. The medicine was continued in reduced doses for a month, after which it was entirely omitted. Four months have since passed without a symptom of hysteria or epilepsy, notwithstanding the continuance and actual increase of her family troubles.

ART. 97.—*Treatment of Otagia by Tobacco.*

By THOMAS C. OSBORNE, M. D.

(*New Orleans Med. and Surg. Journ.* ; and *Brit. Med. Journ.*, April 27, 1867.)

Tobacco as a remedy in otalgia is extolled by Dr. Thomas C. Osborn. The cases in which he resorted to it were mostly neuralgic, due to malarial influence. The first case was in a little girl in the second or third hour of a quotidian paroxysm of otalgia. The mode of application was very primitive, and will probably not be adopted generally in practice. It consisted simply in conveying a quantity of the doctor's saliva, saturated with tobacco, into the patient's ear. In a few moments the patient was quiet, free from pain, and soundly asleep. The local use of tobacco in ear-ache has since passed into the hands of the people in the doctor's neighborhood as a very efficient remedy.

Dr. Osborn also speaks very favorably of local applications of tobacco in cases of prurigo preputii, scroti, podicis, and pudendi muliebris.

ART. 98.—*Treatment of Intermittent Fever by Nitrate of Potash.*

By Dr. SAWYER, of Illinois.

(*St. Louis Med. and Surg. Journ.* ; and *New York Med. Journ.*, Feb. 1867.)

Dr. Sawyer states that he has used nitrate of potash with great success in the cure of intermittent fever, even where quinine has failed. He administers it in ten-grain doses, with ʒss of brandy or water ; or, if more agreeable to the patient, the powder may be placed on the tongue and allowed slowly to dissolve. He says : "I deem it a specific in ague, and have never failed to arrest the paroxysm, if uncomplicated. You will also find that the patients are less liable to relapse than when cured by quinine. In the cold stages, if administered in a full dose, and the patient be placed in bed and covered with blankets, he will in a few minutes experience considerable heat, which will be followed by copious perspiration, and every unpleasant feeling will vanish." The action of this medicine more closely resembles nature's mode of curing the disease in question than any other plan, as she cures by copious diaphoresis as well as diuresis ; or, in other words, by elimination. .

ART. 99.—*Severe Colic and Constipation; Beneficial Effect of Belladonna.*

Under the care of Dr. MURCHISON.

(*The Lancet*, January, 19, 1867.)

Belladonna is much more frequently had recourse to in the treatment of constipation abroad than in this country. The beneficial effects which appeared to result from its use in the following case were very remarkable.

"Ellen L., aged twenty-seven, married for three years, but without any family, and catamenia regular, was admitted into the hospital on the 28th of December, 1866. She stated that she had always enjoyed good health, with the exception of an attack similar to the present one about two years before. On that occasion she had been ill for nearly three months; she had taken enormous quantities of purgatives, and yet for three weeks she had passed nothing from her bowels. She had never had jaundice or passed blood in her urine, and no one living in the same house had on either occasion suffered from similar symptoms. The present attack commenced ten days before admission, with severe pains in the abdomen, of a paroxysmal character, and always worse at night. From the first the attacks of pain had often been accompanied with violent vomiting; but for seven or eight days the bowels had acted daily. For at least two days before admission the bowels had not acted.

"On admission, the patient was in great distress with pain in her abdomen and back, which bent her up double. The pain was paroxysmal, but the paroxysms followed one another in rapid succession. She described the pain as shooting from the abdomen down the anus, as well as the legs. The urine contained no blood. There was not a trace of jaundice, and no tenderness of abdomen; but the paroxysms of pain were accompanied by violent retching and bilious vomiting. The pulse was 72; the skin felt cool; no external hernia could be discovered; and there was no blue line along the edge of the gums. The patient on admission was ordered a warm bath, poultices with laudanum to the abdomen, a large castor-oil enema twice a day, and a draught every four hours containing twenty minims of laudanum and of chloric ether in an ounce of peppermint water.

"On Dec. 30th she had taken in the course of two days nearly half an ounce of laudanum, besides having a quarter of a grain injected into the skin; and she had had five copious injections of gruel and castor-oil, and two warm baths. But there had been no action whatever of the bowels, and the vomiting and pain continued as urgent as ever, so that she had had no sleep since admission. In addition, the pulse had risen to 108, the skin felt hot, the patient was more depressed, and there was decided tenderness in the left groin. Twelve leeches were now ordered to be applied to the abdomen, followed by linseed poultices; and a mixture was prescribed, consisting of castor-oil, half an ounce; liquor potassæ, twenty minims; tincture of opium, twenty-five minims; and peppermint water, an ounce and a half: to be taken every sixth hour.

"The tenderness of the abdomen was considerably relieved by the leeches; but on Jan. 1st the patient had taken eight doses of the mixture, or four ounces of castor-oil and nearly three and a half drachms of laudanum, which had been retained, but without any action of the bowels, and with but little relief to the pain or vomiting. The patient was now ordered a pill containing half a grain of extract of belladonna every four hours, with belladonna ointment to the abdomen, a warm bath at night, and a castor-oil enema twice a day.

"On the following morning, after taking four of the pills, and the pupils being moderately dilated, the patient had a copious feculent motion. This was the first action of the bowels for at least a week, and from that moment the pain and vomiting subsided. The pills were repeated twice daily, and the bowels continued to act regularly and copiously. On Jan. 8th the patient was discharged well."

The most probable cause of the colic in this instance Dr. Murchison believed

to be the accumulation of fæcal matter in the bowels, and for the following reasons. Before the bowels acted a doughy mass could be felt between the umbilicus and the left groin, which, on Dec. 30th, was the seat of considerable tenderness, and when the bowels began to act, large quantities of feculent matter were passed. It is well known that enormous accumulations of fæces may take place in the intestine, notwithstanding that the bowels act daily. A remarkable case of this sort is recorded by Frerichs, in which the accumulation was mistaken for pregnancy or an enormous tumor of the liver.*

Although the pain was referred to the back as well as the abdomen, the absence of blood or albumen from the urine, and the immediate cessation of the pain on the bowels acting, negatived the idea of nephritic colic.

The situation of the pain, the age of the patient, and the complete absence of jaundice, were opposed to the notion that it was biliary colic.

The fact that the patient had both attacks in the same house raised the suspicion that the symptoms might have been due to lead; but opposed to this view were the following considerations:—

1. No other person in the same house had suffered from similar symptoms.
2. In the interval between the two attacks the patient herself had not suffered from colic.
3. The characteristic blue line of lead was absent from the margin of the gums. The edge of the gums was tumid and unusually red, but there was no blue tint.

ART. 100.—*Experiments with Hemlock.*

(*The Lancet*, March 23, 1867.)

The medicinal properties of hemlock, though vaunted at different times, its title to be considered as a valuable addition to our Pharmacopœia has not been very clearly made out. Dr. John Harley is doing good service to medicine by patiently experimentalizing with conium, with a view to obtaining some definite knowledge of its reputed virtues. He has already shown that the tincture conii fructus (P. B.) and the tinctura conii (P. L.) may be taken with impunity in two fluidounce doses, and that the only apparent effects resulting from the exhibition of so large a quantity are those of stimulation by the alcohol.

As a general consequence of his latest investigations, Dr. Harley condemns the use of any part of the dried plant in medicine, and does so without hesitation, since, from experiments upon himself and others, he has been able to show that the succus conii of the British Pharmacopœia is in all respects a most efficient preparation, and one which possesses in a powerful degree the poisonous properties of hemlock. He described at a recent meeting of the Pharmaceutical Society the following effects of the succus, prepared by Mr. C. F. Buckle, of Gray's-inn-road, upon himself:—

"Dec. 10th, at half-past eleven A. M., I took two fluidrachms with a little water, and remained quiet. No effect followed.

"Dec. 11th, at half-past ten, took three fluidrachms. Three-quarters of an hour afterwards a heavy clogging sensation in the heels was suddenly experienced. This effect became very decided, and was clearly due to direct impairment of muscular power. On putting a foot upon the scraper at the door of the hospital, the other leg felt almost too weak to support the body. A sensible exertion was required to effect the muscular movements, and they seemed to be heavily and clumsily performed. Giddiness was induced by looking at a blazing fire at the distant end of the ward, and this appeared to be due to want of power in the muscular apparatus of the eye to fix the gaze firmly enough to get a good definition. Two hours and a half after taking the drug the effects had totally passed off, and I walked away briskly a distance of two miles. The maximum effect was apparent about one hour and a quarter after taking the dose.

"Dec. 17th, at a quarter to eleven, I took five drachms and a half of the succus. Three-quarters of an hour afterwards disorder of vision suddenly came

* *Diseases of the Liver*, Sydenham Society's Translation, vol. i. p. 69.

on: it was a feeling of giddiness, induced by shifting the eyes from one object to another. So long as the eyes were fixed upon an object, the capacity of vision for and definition of the minutest objects were unimpaired, but the instant the eyes were directed to another object all was haze and confusion, and in order to remove these effects it was necessary to rest the eyes upon a given object, and there retain them with fixed gaze. It was clear to me that the adjusting muscular apparatus of the eye was enfeebled, and that its contractions were so sluggishly performed that they could no longer keep pace with those of the external muscles of the eye. At a quarter to twelve the derangement of the muscular apparatus of the eye was much increased, and the implication of the third nerve was still further indicated by great dilatation of the pupils and approaching paralysis of the levator palpebræ muscles. It now required considerable effort to raise the eyelids, and a general muscular lethargy rapidly spread over the body. At twelve at noon I first felt weakness in the legs, especially apparent in the hamstring muscles. At this time I was cold, pale, and tottering, and afraid to retain the sitting posture lest the muscular lethargy should get the better of me, and result in general paralysis. I therefore walked about, and tested the strength of my tottering legs. The mind remained perfectly clear and calm, and the brain active, while the body seemed heavy and well-nigh asleep. There was, in fact, a direct diminution of power in all the voluntary muscles, almost amounting to paralysis; and of all the motor nerves, the third was the earliest and most deeply affected. At one time it required the greatest effort to raise the eyelids. On the first sudden approach of the above-mentioned effects, the action of the heart was, most probably from a feeling of alarm, considerably excited, and the pulse was small. Tranquil action was restored in a few minutes, and the pulse remained regular, and numbered sixty-eight. At two P. M. all effects of the conium had passed off, and the rest of the day was employed in active mental and bodily occupations."

The author stated that so far as his inquiries went, he found that the extract—even that which had been most carefully prepared from the powerful succus employed in the above-described experiments—contained but a trace of conia, and appeared to be destitute of active properties in ordinary doses. Having distinguished the useless from the useful preparations of conium, the author concluded by expressing a hope that the former would be excluded from the *Materia Medica*, and that practitioners would rely upon the succus alone; which, in the smallness of the dose, in almost complete absence of taste and color, and in certainty of action, combines all the requisites of a useful and valuable medicine. Such experiments as these are most valuable. Nothing is more needed now-a-days than a critical re-examination of the properties of vaunted remedies.

ART. 101.—*Habits of Social Life leading to Indigestion—Tea.*

By THOMAS KING CHAMBERS, M. D., Honorary Physician to H. R. H. the Prince of Wales.

(*The Indigestions or Diseases of the Digestive Organs functionally Treated.*)

The following case, illustrative of the pernicious consequences of excessive tea-drinking, is extracted from Dr. Chambers's clinical lectures at St. Mary's Hospital:—

"Maria D., a spinster of thirty-two by her own confession, but probably older, has been a general servant in a light place for several years. She has been happy, and has enjoyed pretty good health, interrupted only by occasional headaches; but for some time lately things have seemed to annoy her more than they ought to do. Three months ago she had a bad 'bilious' headache, which was followed by some paroxysms of laughing and crying. Five weeks back she had an attack of diarrhœa, from which she got better, and went to work again in spite of weakness, for she was loath to let her mistress want her. But exertion was in vain, for she no sooner tried to clean a grate than she fell down speechless, and had a succession of hysterical fits, losing her senses, but not

biting her tongue. Then she began vomiting everything she took, and this had been going on for three weeks, and seemed to amount to a complete rejection of all her food immediately it was swallowed. When we saw her there was excessive flatulence, the air bursting up from the stomach in roaring eructations while one was talking to her.

"In this woman, the effect of the wide pupil and sympathetic hæmoptysis is not hidden even by the disfigurement of blear edges to the eyelids, and it quite accords with the droll earnestness of her manner, which increases gradually as you let her go on talking about herself, leaving no doubt of her strong hysterical diathesis.

"As to the cause, it would seem that for some years she has become more and more addicted to tea-drinking. She confesses to caring for little else, so long as she could get her favorite food or physic—or poison—I do not know exactly how to call it. Her mistress was quite angry with her for eating so little meat; and, with a far-sighted economy not common in her class of life, took much trouble to keep up the health of a faithful servant. But the weakened stomach refused meat, and she was literally starving in the midst of abundance.

"Much ill-health," Dr. Chambers says, "arises among women of the lower orders in this country from the custom of sluicing themselves with tea. I am not aware if similar results follow in Holland and Portugal, the only other tea-drinking populations in Europe. Want of appetite for the quantity of coarse albuminous food necessary to working people is induced. In the upper ranks not so much harm is done by the five o'clock kettle-drums and similar sloppy proceedings, now so common, because their bill of fare is more attractive to the palate, and they usually get as much flesh food as is good for them in spite of it. Tea seems more injurious to the stomach in the usual form of infusion than otherwise. I remember some years ago being puzzled on viewing lives for insurance by some singularly-colored tongues which I saw in those who came before me. On inquiry, I found their occupation was 'tea-tasting' for the greater part of the day. Now, tasting tea is performed partly by sipping some of the infusion, but principally by sniffing up the aroma into the nostrils, and chewing a few leaves in the mouth. I was given to understand that they sometimes found themselves nervous after a long day's work, that possibly the hand might shake a little in those who worked too hard, and that the tongue acquired this curious, smooth, orange-tinted coating, but that the digestion and appetite did not suffer from the trade."

ART. 102.—On the Indiscriminate Use of Alcoholic Stimulants in Disease.

By SAMUEL WILKS, M.D., Physician to, and Lecturer on Medicine, at Guy's Hospital.

(*The Lancet*, April 27, 1867.)

In a clinical lecture delivered at Guy's Hospital on the above subject, Dr. Wilks said, "To my mind, the most important question in therapeutics at the present day is the value of alcohol in disease. If it be said that its frequent use is an evidence of its potency, this is the more sufficient reason why its administration should be watched with the extremest care. Like other drugs, it may be beneficial, useless, or harmful. Fevers will do well without this remedy. So wedded, however, are some to the idea of the absolute necessity of stimulants, that they have expressed almost incredulity when they have heard it stated that fevers will terminate favorably without them. Of course stimulants are often needed; but young persons with typhus and typhoid do far better, I believe, without them. That they make good recoveries on simple milk diet is a fact which my hospital cases prove, and which no arguments can gainsay; and, on the other hand, I have seen a marked improvement take place in some cases where a stimulus has been left off. It is also a fact that in bronchitis I have repeatedly seen improvement after stimulants have been omitted;

and, as regards heart-disease, I am convinced that the amount of mischief done by stimulants is immense. In the case of fevers and bronchitis, the weak pulse is often but an indication of extreme capillary congestion, and a stimulus to the heart only aggravates the evil; and in the case of a diseased and weak heart, where repose is indicated, a constant stimulation by alcohol adds immensely to its trouble.

"It causes me daily surprise to observe how the effects of stimulation are overlooked. Often have I been called to see a patient apparently dying, sometimes of a nervous disorder, at another time of a liver complaint, and at another of heart-disease. He is lying in bed, where he (or she) has been for some time, and kept alive (as it is said) by brandy; the breath is abominably fetid; the heart's action is so rapid that it is impossible to say whether the organ is diseased or not; the patient refuses food, or if this be taken, it is rejected, and so he is plied with brandy to keep him alive; the body is, in fact, saturated with spirit, or its elements. My first remark on seeing such a case is, that a man cannot live on alcohol; he must take some food, or he will die. The correctness of such common-sense remarks is admitted, but qualified with the statement that no solids can be taken, and that if stimulants be omitted, it is feared the patient will sink. It is assumed that the constant administration of brandy is necessary for the temporary maintenance of life, and the idea never seems to have been conceived that the stimulation of the heart causes the weak, fluttering pulse, and the stimulation of the stomach a subacute gastritis. Do you ask me what method I adopt? The simplest possible. I withdraw every drop of the stimulant, and in a few hours the irritated stomach is partly restored to its normal condition, the nervous excitement abates, the patient takes a little food, and begins to mend. Do you ask, again, whether I do not fear any frightful results from the sudden withdrawal of the stimulus? I say, not the least; I have no fear of the consequences. Not of delirium tremens? Not in the least. This is a disease not induced by the withdrawal of stimulants, but, on the contrary, is produced by a recent debauch. For the production of delirium tremens the patient must have been such an habitual tippler as to have weakened his brain, and must then have had an overdose of the stimulant to set up the disease. There are no facts to show that the withdrawal of the accustomed drink is attended with any evil results, although I know that an imaginary fear of this kind leads to an erroneous and vicious method of treatment—the plying the patient with a stimulant during the violence of the attack, the effect of which is to prevent or prolong the cure. Rest and repose, with the avoidance of stimulation, is the treatment which the patient requires. The success of digitalis may be mentioned in corroboration of this view. I repeat that there are no facts to show that delirium tremens is produced by the withdrawal of stimulants, whilst it is a fact, as I could illustrate by many cases, that nothing but good results from its absolute discontinuance in the desperate cases to which I have alluded.

"That many cases of disease of various kinds would do far better without stimulants I am perfectly confident. But lately I have seen the case of a gentleman, about sixty years of age, who passed through a most severe attack of pneumonia without the use of stimulants. He had been a tolerably free liver, and would not have been called a good subject; but having before me the case of another gentleman of the same age, who had just died of pneumonia, and who had taken a large lot of brandy, I readily acquiesced in the patient's own view, that none should be given. It is very remarkable what extremes we have reached, and on how slight a scientific basis is founded the treatment of pneumonia. Not many years ago the antiphlogistic method was adopted, including bleeding, antimony, calomel, &c.; then came the 'let alone' method; and now we have the brandy treatment. What the need of this can be with Professor Hughes Bennett's statistics before us, I do not comprehend. My own opinion is (but of course this is only an opinion), that in any given number of cases a larger majority would recover under the old antiphlogistic treatment than by the more modern method by brandy. As regards heart-disease, the utmost discrimination is required in the use of stimulants. There are cases where an undoubted benefit is produced by them; but there are others, and these I have

seen repeatedly, where alcohol has induced palpitation, fluttering, great distress, and constant sleepless nights, but where, on the other hand, the withdrawal of the spirit, and the substitution of a dose of digitalis or henbane, has been of the most essential service. The administration of a stimulus, in the attempt to overcome disease, in lieu of good and well-tried remedies, evinces the very worst form of medical scepticism with which I am acquainted.

"It is not only in these severe cases of disease, but in lesser troubles, that your recommendation of stimulants may do incalculable mischief. You visit, for example, an ailing lady, and she details to you a number of troubles of a nervous and dyspeptic character. She is sitting in-doors all day, taking no exercise, living well, and consequently drifting into a weak and flabby condition. You place your hand on her pulse, and, finding it feeble, condole with her on her state of health, assure her that she does not live well enough, and order her a few extra glasses of wine or a little brandy.¹ You find that she grows no better for the advice; but perhaps you never reflect that you have been adding fuel to the fire. Knowing not what to do in the way of treatment, you order her out of town, and she immediately begins to improve. She goes to Brighton, rides on horseback or walks miles a day on the Parade, regains her appetite, craves less for stimulants, and her health is restored. If, on the contrary, you fail to remove her from her home, she goes on from bad to worse; she takes to her bed, eats less food, drinks more wine and brandy, until, having become one mass of fatty degeneration, life can hold no longer, and death ends the scene. This lady has been killed with kindness. This is no imaginary case; my mind's eye is carrying me to the bedside of more than one such instance. Do not then assume that alcohol is an equivalent to a tonic, and that it must be necessarily administered because your patient is weak. It may be that that very weakness is due to the long-continued pernicious effects of this same stimulant; indeed, as you have often heard me say in the out-patient room, if a man comes into our presence with a tottering gait, bloated face, and his nervous energy all gone, you may be quite sure that he has been taking 'strengthening' things all his life."

¹ "The word 'little,' it must be remembered, has long ceased to maintain its original signification in reference to eating, drinking, and physicking. It would be extremely vulgar were we to be asked at our dinner tables to take otherwise than a 'little' more; and the doctor would not be forgiven by his patient were he, in detailing the ingredients of his prescription, to state that he had administered the regular dose, but that he had given only a 'little' of this or that. When therefore a patient is ordered a 'little' brandy, the adjective in no way qualifies the amount."

PART II.—SURGERY.

SECT. I.—GENERAL QUESTIONS IN SURGERY.

ART. 103.—*On Surgical Poisoning.*

By M. MAISONNEUVE.

(*Archives Générales de Médecine*, Février, 1867.)

M. Maisonneuve commenced a paper, read before the Académie des Sciences, with this proposition: *out of 100 patients who succumb to sequelæ of surgical operations 95 die poisoned.* In fact, the majority of patients who have undergone operations succumb to some one of those affections known by the name of phlebitis, angioleucitis, erysipelas, diffuse phlegmonous erysipelas, gangrene, surgical fever, puerperal fever, &c.

M. Maisonneuve believes that he is able to establish the following facts: 1. That all these different affections are really varieties of poisoning. 2. That it is possible to specify their real plan of action. 3. That in the present state of science the surgeon has it in his power to prevent their development in the majority of cases, either by preventing the formation of the poison, or by neutralizing or evacuating it when it is present, or, finally, by occluding effectually the passages along which it may penetrate.

The theory of surgical poisoning consists in looking upon the febrile affections which follow traumatic lesions as the results of a poisoning caused by the introduction into the circulation of toxic agents formed by the organism itself. Having brought forward the fact that the living juices, blood and lymph, putrefy and acquire intensely septic qualities when they are exposed to the air and lose their vital properties, and that the same change takes place in certain excretory fluids (urine, bile, liquid and gaseous evacuations), M. Maisonneuve states that these poisonous agents may, on the one hand, by acting directly upon the tissues with which they are in contact, produce erysipelas, angioleucitis, and phlebitis; and, on the other, may, by being absorbed, cause disturbance in the whole of the body (surgical fevers); finally, that after they have passed away from the large bloodvessels, they may, by remaining in the capillary networks, become the cause of a number of secondary disorders (metastatic affections), as erysipelas, anthrax, parotitis, abscess, &c. M. Maisonneuve thinks that the surgeon may prevent putrefaction of the exuded juices, or may produce effectual closing of the orifices by which putrid elements can be absorbed, by resorting to the following operative methods: 1. Subcutaneous incisions. 2. Caustic arrows. 3. Forcible tearing or torsion. 4. Elastic or digital compression. 5. Injections into closed cavities. 6. Antiseptic dressings.

ART. 104.—*Cases that Bone-Setters Cure.*

Clinical Lecture delivered at St. Bartholomew's Hospital by JAMES PAGET, Surgeon to the Hospital.

(*British Medical Journal*, January 5, 1867.)

In speaking of the cases that bone-setters cure, Mr. Paget said, in a highly interesting and instructive lecture, "I believe that, in the large majority of cases, bone-setters treat injuries of joints, of whatever kind, with wrenching and other movements of them. The proceeding was described to me lately by a gentleman who had a well-marked fracture at the lower end of his radius. He had

been to a distinguished bone-setter, who, with a glance at the wrist, said : ' You ha' put out your wrist, that's what you ha' done ; ' then violently stretched and moved the joint ; then said : ' Now you go and hold that under my pump ; ' and, after the cold douche, took his fee. The fracture, being none the better for this treatment, was, at a second visit a few days later, again wrenched, pumped upon, and paid for. But, this time, much pain and swelling followed ; and the patient had the wisdom to call himself a fool, and to go to his usual medical attendant, who sent him to me.

" Cases of this kind are of frequent occurrence. To the bone-setter, every injured joint is ' put out ; ' and the one method of cure is the wrench and the rough movements, by which it is said that the joint is ' put in ' again.

" Now, it would be of little use to us to estimate, even if it were possible, the quantity of mischief done by treatment such as this. It is more important to know and consider that it sometimes does good ; that, by the practice of it, bone-setters live and are held in repute by the ignorant of all classes everywhere ; and that their repute is, for the most part, founded on their occasionally curing a case which some good surgeon has failed to cure. For here, as in all similar affairs, one success brings more renown than a hundred failures or mischiefs bring disgrace. The patients who are cured never cease to boast of their wisdom in acting contrary to authorized advice ; but they who are damaged are ashamed of themselves, and hold their tongues.

" What, then, are the cases that bone-setters cure with their practice of wrenching ?

" First, of course, they have a certain number of real fractures and dislocations which they reduce, and of old ankyloses which they loosen. Of these I need say nothing ; for I believe there is nothing in their practice in these cases which is not as well, or better, done by regular surgical rules.

" Next, there is a rare accident which a wrench may cure, and which, if you are not on your guard, you may fail to make out ; namely, the slipping of a tendon. I have known the tendon of a peroneus longus slip to the front of the outer malleolus ; and an extensor tendon of a finger slip over the heads of the metacarpal bone and first phalanx ; and here, from our museum, is the long tendon of a biceps slipped from its groove. Of these accidents, the first two may be made out by feeling the displaced tendon and the gap where it should be ; the third may be at least guessed at by the signs which Mr. Soden has pointed out in his case, related in the *Medico-Chirurgical Transactions* ; the slight forward prominence of the head of the humerus, its drawing up under the acromion, and the pain at the lower end of the biceps on stretching it. As to this displacement, however, I doubt whether it would be ever so certainly made out as to be fairly reduced ; the others, at the ankle and the finger, should be remedied by relaxing the slipped tendon as extremely as possible, and replacing it with lateral pressure and sudden stretching.

" Some other tendons may slip, I believe, like these ; the tendon of the popliteus appears very likely to do so ; and I can hardly doubt that a bone-setter has occasionally done, unwittingly, a lucky trick, when, with wrenchings and twistings of a joint, he has made some dislodged tendon slip back to its place.

" But there is a set of cases much more common than these, which may be cured with wrenching and rough movements ; namely, the so-called internal derangements of joints. The knee-joint is by far the most frequent seat of this injury, whatever it is ; but the like occurs in the lower jaw-joint ; and I have known very similar signs of injury at the hip and elbow. The most marked sign is that, while the joint is being moved in some ordinary action, something is felt slipping or suddenly caught between the bones, and a great pain comes, and the joint is locked. It will move in one direction, not in the opposite one ; just like a hinge with a stone in it (as a patient described it to me). The locking of the joint, which is, usually, at moderate flexion, is soon followed by effusion of fluid into it, and other signs of more or less acute inflammation of the synovial membrane ; and, if nothing be done, these last for some days, or even for some weeks, before, with subsidence of the inflammation, the joint gradually regains mobility.

" Many of these symptoms are like those due to a loose piece of cartilage in

a joint—a much rarer condition. But, with loose cartilages, joints are not, I think, often locked for any length of time; they are stopped with extreme pain when the cartilage gets between the bones, but it soon escapes, and they go again. In some of the cases of what I am calling locked joint, at the knee or lower jaw, it is probable that one of the interarticular cartilages slips and is nipped between the bones. We have, in the museum, a cast from a knee in which it is certain that this happened. But in some cases it seems more likely that a fold of synovial membrane, or a portion of capsule, is caught and nipped. However we may explain the accident, it is one of those that may be cured by the bone-setters. Such movements as theirs are not, indeed, necessary; and none should be practised recklessly or without plan; but force may be requisite, and, if used knowingly, will certainly set a locked joint right again.

"Sometimes a patient learns for himself how to unlock his joint, and can do it gently, first, in the case of the knee, bending and then with slight rotation slowly stretching it. But he may need more force than he can use for himself; and you may apply it better than a bone-setter can.

"In the case of the knee, the 'lock' usually takes place with the joint moderately bent and the leg rotated outwards. You must unlock it by extremely bending the joint, then rotating the leg inwards, and then suddenly and forcibly extending it. In the same manner, for any other joint that appears to slip and lock, you must observe the direction in which the patient can easily move it, and the direction in which movement is impossible or very painful; then you must move it, first, extremely in the former direction, and, secondly, forcibly in the latter. The manoeuvre is sometimes extremely painful; and the force required for success may be greatly augmented by muscular resistance. In either case, the use of ether or chloroform may ease both the patient and yourself.

"A fourth set of cases that may be cured with wrenching, or other forcible movements, includes those in which injured joints are held stiff, or nearly stiff, by involuntary muscular action. You may meet with such cases in patients of any age; but they are most frequent among the young. Sometimes after well-treated fracture near a joint; sometimes after a sprain; sometimes when a joint has been hit hard—stiffness remains, which is due solely to muscular action; and this stiffness in some cases is constant, and in others ensues on slight attempts at motion.

"Any joint, I believe, may be in this condition at any time after an injury. I have seen it at the elbow, shoulder, cervical spine, hip, knee, and ankle; in some instances a few hours after the injury, in some, several weeks. You may know this muscular kind of stiff joint by this, among other signs: that the stiffness is not a dead block, as if by meeting of displaced bones, nor has rigid resistance, but yields a little, as if with the 'giving' of a firm elastic substance which instantly recoils. Besides you may generally feel the muscles in action; not hard and vibrating as if with all their force, but firm, steady, and resisting. If, however, you have any doubt about the diagnosis, chloroform will settle it. As soon as the patient becomes quite insensible, the muscles relax, and the previously stiff joint becomes freely movable.

"Herein appears the best mode of cure. Bone-setters violently move the joints against the muscular resistance till the muscles are wearied and beaten, and you may do the same; but the proceeding is very painful, and often needs a painful repetition. A far better plan is to have the patient under chloroform, and move the joint quietly, and then to confine it with splints in a posture opposed to that in which it was stiff. After a few days, it may be moderately exercised, douched, and shampooed; but in the intervals of this treatment the joint should be confined with the splints, if it should appear to be becoming stiff again.

"You may sometimes see another condition, very like this involuntary muscular rigidity of joints, in young children. If one of its limbs be hurt, a young child will sometimes hold the limb steadily in one position, and complain if it be moved. Thus, a child whose thigh has been strained will stand on the other leg and keep the hurt thigh lifted up, as if for extreme disease of the hip-joint; or, for similar hurts, will, for even many days, keep its arm close to its side, or its elbow-joint steadily bent.

"Perhaps some of these cases are the same as those I last spoke of; but in many of them the muscular fixing of the part has seemed to me not involuntary. It is more like a trick, or an instinct of fright, lest the part should be hurt again. Certainly, the muscles relax instantly in sleep, and not unfrequently when the attention is distracted from them.

"I suppose that bone-setters would cure this state with their panaceal pulling; but, happily, they are allowed to have but little practice among children. Happily, I say, for children's joints are much more imperilled by violence than are those of older patients; and you cannot be too cautious in concluding, when a child holds a joint fixed, that there is really no disease or serious injury. All the evidence must be negative; and an oversight may be disastrous.

"However, you need not use any kind of force in this kind of contraction in a child. If the part be only allowed a few days' rest, it will get well; unless, indeed, it be seriously damaged, in which case you will have done well by avoiding all violence.

"In another set of cases, there is no doubt of the voluntary character of the muscular rigidity of a joint. You saw lately a girl in Lawrence Ward who wilfully resisted all movements of a hip that had been only slightly hurt. If a bone-setter had wrenched her joint, it might have served her right, and the pain might have cured her temper. But she recovered just as well when she saw that she did not deceive us and was not pitied.

"Now, among all these cases of muscular difficulty, there is a good harvest for bone-setters; and, without doubt, their remedy, rough as it is, is often real. Yours may be as real, with much less violence; and, with better diagnosis than they can ever make, you may do none of the harm that they often do.

"But there is a yet larger class of cases which bone-setters sometimes succeed in curing very quickly; namely, ordinary sprains.

"I cannot doubt that some recently-sprained joints may be quickly cured, freed from pain, and restored to useful power, by gradually increased violence of rubbing and moving. This method of treatment has many times been introduced into regular surgery; but it has never been generally adopted, or, I think, long practised by any one. I suspect that it sometimes does no good, and sometimes does harm enough to disgust an honest surgeon.

"I believe that the best mode of applying this plan of treatment is, to begin by handling, rubbing, and pressing the sprained part and its neighboring structures very gently. After doing this for fifteen or twenty minutes, the rubbing and pressing may be increased in hardness, and the joint may be more freely moved, especially in the direction opposite to that in which it was forced by the accident. Another quarter of an hour or more thus spent is to be followed by rougher proceedings of the same kind, till even severe pressure and wide and violent movements can be borne without pain; and then, in an hour or so, the cure is deemed complete, or so nearly complete as to require only a slighter treatment of the same kind on the next day.

"I cannot tell you in what kind or proportion of recent sprains you may employ this treatment; indeed, I cannot advise you to use it at all, unless by way of trial in very healthy men. For I do not doubt that it will sometimes do harm; and the greater quickness of cure which it may achieve is not worth a risk, while we can always employ such safe, and not slow, means as the combined rest and support of the sprained parts which are given by strapping or the starched or plaster-of-Paris bandage. In short, this rough-rubbing and hard-pulling treatment of recent sprains seems to me one of those dangerous remedies which, though I believe in their occasional utility, I would rather not employ till I can discriminate the cases in which they will do good from those in which they will do harm.

"Such discrimination, difficult as it may be among recent sprains, is not very difficult among old ones; that is, among cases in which the ill effects of sprains remain long uncured. It is among these cases that bone-setters, and especially those who combine rubbing and shampooing with their 'setting,' gain their chief repute.

"Among 'old sprains,' you will find a strange variety of cases—chronically-inflamed joints, each probably bearing the marks of the constitutional disease

or unsoundness of its possessor; and loose joints, and slipping, and creaking, and weak, and irritable joints, and many more. To all these, mere bone-setting does harm, or no good; and rubbing and shampooing are of little, if any, use; indeed, to a really inflamed joint they would generally be mischievous. But among 'old sprains are not a few cases in which a joint, after long treatment, remains or becomes habitually cold. It is generally stiffish and weak, sensitive, aching after movement, or in the evening or at night sometimes swollen, puffy, or œdematous, but not with an 'œdema calidum.' Whatever else it is, it is cold, or, at the most, not warmer than the healthy fellow-joint. Among these cold joints, bone-setters and rubbers gain, as I said, great repute; and all the more because they often get the cases after the patients have become tired and discontented with a rather over-careful surgery. Admirable as is the rule of treating injured joints with rest, such rest may be too long continued; and in every case in which it has done full good, it must, in due time, be left off. With rest too long maintained, a joint becomes or remains stiff and weak and over-sensitive, even though there be no morbid process in it; and this mischief is increased if the joint have been too long bandaged, and still more if it have been treated with the cold douche.

"I need hardly say that it may be sometimes difficult to decide the time at which rest, after having been highly beneficial, may become injurious; or that the decision is always a matter of grave importance. On the one hand, you and the patient may be losing time through over-caution; on the other, the risk may be incurred, through rashness, of renewing inflammation in a damaged joint. I believe you will be safe if you will take the temperature of the part for your guidance. If the part be always overwarm, keep it quiet; if it be generally cold, or cool, it needs and will bear exercise and freedom from restraint of bandages, with friction and passive movements, and other similar treatment of the reviving kind. And of this you may be the more sure when the cold integuments over the joint are dusky pink or purplish, or become so when the limb hangs down, and when there is little swelling, and when pain is much greater than is accounted for by any appearance of disease.

"I do not know whether bone-setters make any discrimination among these cases; and I do not advise you to adopt their rough method in any case; for though they may, when successful, prove emphatically the utility of movements for old sprains, yet the same good may be more safely done with gentler means of the same kind. Exercise of the hurt part should be gradually increased, and always followed by long repose; and the frictions and shampooings should be gradually made harder and more rough, and the passive movements gradually extended. Always, the part, if itself cold, should be, by any means, kept warm; and always the patient's constitutional defects should be watched, and, if possible, amended; for very commonly the chief hindrance to the recovery of a sprain is not local, but some general wrong—gout, chronic rheumatism, or struma, or hysteria, as it is called.

"An 'hysterical joint' is, indeed, sometimes a rare opportunity for a victory for a bone-setter. Cold, weak, useless for want of power of will, intensely sensitive, subject to all the seeming caprices of a disorderly spinal cord and too vivid brain,—such a joint as this may be cured by the sheer audacity with which it is pulled about. If nothing in it but its portion of the nervous system is in fault, this may be sometimes cured through influence on the mind. And so not only bone-setters, but the workers with mesmerism, and tractors, and oils, and distant or superficial electricity, can sometimes cure hysterical joints: for the patients love to be cured with a wonder; and the audacious confidence of all these conjurors is truly wonderful.

"From all this you may see that the cases that bone-setters may cure, though more by luck than by wit, are not a few. I think it very probable that those in which they do harm are still more numerous; but the lessons which you may learn from their practice are plain and useful.

"Many more cases of injured joints than are commonly supposed to be thus curable may be successfully treated with rough movements—wrenching, pulling, and twisting. The cases that are thus curable I have endeavored to point out to you. Be on the watch for them. But remember always that what may be

treated violently may be treated more safely and successfully with comparative gentleness; and that, in some cases, you may very advantageously use chloroform or ether. And remember, also, that no degree of violence, not even such movements or exercises as I have advised, can be generally safe in the treatment of injured joints, unless when directed with a skilful discernment of the appropriate cases.

"Learn then to imitate what is good and avoid what is bad in the practice of bone-setters; and, if you would still further observe the rule, *Fas est ab hoste doceri*, which is in no calling wiser than in ours, learn next what you can from the practice of rubbers and plasterers: for these also know many clever tricks; and, if they had but educated brains to guide their strong and pliant hands, they might be most skillful curers of bad joints, and many other hindrances of locomotion."

ART. 105.—*On Blotting-Paper as a Dressing.*

By Prof. W. ROSER, Marburg.

(*Berlin. Klin. Wochenschr.*, iii. 1866; *Schmidt's Jahrbücher*, No. 2, 1867.)

Dr. Roser recommends blotting-paper as an excellent application for absorbing pus, and as a better dressing for keeping the wound dry and clean than charpie. This paper, besides being extremely cheap, has the advantages of being easily procured and transported. It is desirable that its use should be recommended in military surgery.

In the clinique at Marburg the blotting-paper was applied for purposes of dressing in two different ways—either by a single broad surface or in separate pieces. In the first method of application, a single sheet of the paper is folded several times, and then placed upon the suppurating wound, and when saturated with pus is exchanged for a fresh sheet. In the second method the whole surface of the wound is covered by a layer of small sheets of blotting-paper placed side by side. This application may be made in the following way: The paper should be folded up into a small book, and be applied to the wound in such a manner that the fine edges of the leaves are directed towards the fluid that is to be absorbed.

ART. 106.—*On the Injurious Effects of Dressings after Amputations.*

(*Deutsche Klinik*; and *British and Foreign Medico-Chirurgical Review*.)

Dr. Burow brought this subject before the profession in 1849, with the object of showing that much of the mortality that follows operations is really due to the employment of dressings. He adduced the slight mortality that had attended his own cases in which these were abstained from, as compared with that exhibited by Pauli's statistics. He is now enabled to refer to an additional number of his own cases, making ninety-four altogether, in which the mortality has proved quite trivial. And yet these include numerous cases of amputation of the thigh, leg, arm, &c., many of the patients upon whom the operation was performed being very poor, and treated under disadvantageous sanitary conditions. The stumps in all, however, were left freely exposed to the air, unincumbered with dressings.

As to the execution of the operations, Dr. Burow, when possible, always prefers the tourniquet to manual compression, and performs flap operations whenever the condition of the soft parts admits of this. He disapproves of shaving off the periosteum before dividing the bone, and is very particular in tying every bleeding vessel, believing it far better to tie some of these superfluously than to have the stump disturbed by subsequent bleeding. The surface of the stump is to be left quite exposed until a serous exudation begins to issue, which is generally the case within half an hour, although in some cases we may have to wait some hours for this. The flaps are then brought together by means of two or three sutures and three or four strips of adhesive plaster, these last sufficing without the sutures in amputation of the arm. After the patient

has been placed in bed the stump is only covered with a piece of linen to protect it from the flies, and in the case only of there being much pain ice is resorted to. The very great swelling which takes place in the stump during the second and third days is evidence of the mischievous effects which must result from its confinement by dressings. By Dr. Burow's plan nature is left unimpeded in her process of restoration of collateral circulation of the divided vessels, and emboli with pyæmia are far less likely to occur. If the swelling of the edge of the stump be very great, the threads may be divided at their points of insertion, and left to be discharged, the adhesive plasters being renewed when they become loosened. The discharges are to be gently pressed out from the deeper portions of the wound, and the greatest attention must be paid to cleanliness. How much less reaction follows this simple procedure is seen by the rapidity of the recoveries, patients who had undergone amputation of the thigh having repeatedly left their beds on the eleventh day, the stump being guarded by a small pledget kept on by adhesive plaster. For some years past Dr. Burow has been in the habit of applying to wounds attended with abnormal discharges the acetate of aluminum lotion, which is a cheap and excellent preparation for hospital practice, removing all bad smell. So after amputation, when the discharge is considerable, he resorts to it.

ART. 107.—*On Reducing Dislocations by means of Caoutchouc.*

(*Gazette des Hôpitaux*; and *British and Foreign Medico-Chirurgical Review*.)

M. Anger observes that, having for some time employed this substance in the treatment of ankylosis, fractures, spontaneous dislocations, &c., the good results derived from it induced him to extend its application to traumatic dislocations. A man was brought to the clinic with dislocation of the shoulder, which the ordinary procedures failed to reduce. The trunk being secured, extension was applied by means of a tube of caoutchouc, the thickness of the little finger, and sixty centimetres in length. Gently employed at first, the traction was gradually increased until the tube had been wound four times around the bed-post, thus making four traction cords of fifteen centimetres each. The extension was kept up for nearly half an hour, the patient by that time feeling quite exhausted; and the muscles which had resisted the reduction having become relaxed, this was easily accomplished. This mode of making the extension, by its gradual and gentle, though efficient character, M. Anger considers as very superior to any of the ordinary procedures. The amount of traction employed must be proportioned to the resistance offered, which varies by reason of strength, sex, and age. In the present case, the subject of which was athletic and the dislocation complicated, four tubes, fifteen centimetres in length, extended to double their length, amply sufficed. The extension should be regulated in ordinary cases so as to obtain complete muscular relaxation in fifteen or twenty minutes.

ART. 108.—*On Sprains in Children.*

(*Bulletin de Thérapeutique*; and *British and Foreign Medico-Chirurgical Review*.)

M. Guersant recommends that cases of slight sprain should be treated either by binding wadding around the joint, or by methodical kneading or shampooing (*massage*). This last may be resorted to either immediately or some hours after the accident, provided always that there be tumefaction and infiltration of the soft parts, a bandage moistened with a spirit lotion and a little extract of lead being afterwards applied. The hands having been greased with lard, gentle and prolonged pressure should be exerted on the limb from below upwards, the *séances* being repeated more or less often according to the severity of the sprain. In slight cases the patient is enabled to walk after one or two of these; but when the sprain is more severe, the shampooing may have to be repeated

for several days. Where there is great swelling and severe pain leeches should be resorted to; or cold may be kept applied by means of wet compresses or continuous irrigation. At the end of a few days a bandage should be lightly applied, to be followed, when the swelling has all subsided, by a starch bandage, which may be retained for a fortnight, month, or even longer.

M. Guersant especially alludes to the sprains produced in children by the mischievous practice of suddenly raising them by a single arm, the limb always being more or less twisted into a state of pronation or supination, with distension or stretching of the joints at the wrist and elbow taking place. It is very rare for fracture or dislocation to be produced in this way, but the appearances may be such as to cause alarm to the friends of the child, and sometimes even to the medical attendants. In ordinary cases there is no appreciable deformity present, but the movements of the parts give great suffering to the child, and on the execution of these a sound is sometimes heard, without seeming to proceed from any precise spot, such as might be produced by the sliding of articular surfaces on each other. Quite suddenly, after the execution of some of these movements, the child ceases to complain; and without our seeming to have done anything to remedy the defect, he becomes enabled to move the arm as before the accident. Sometimes, however, the pain persists, and there may be great tenderness around some one of the articulations. It is not always possible to make a correct diagnosis in these cases; but when neither fracture nor dislocation can be detected a sprain may be said to have been produced—i. e., a sliding of the articular surfaces with distension of the ligaments; or, in other words, a tendency to a dislocation which has not been effected. The accident is not always confined to the wrist or elbow, and may implicate more than one joint. The arm should be kept at right angles, either in supination or pronation according to the preference of the patient. The child then complains no more, and in three or four days is cured. If at the end of this time pain persists, a starch bandage may be applied for eight or ten days.

ART. 109.—*The Electrolytic Treatment of Tumors and other Surgical Diseases.*

(*British Medical Journal*, January 12, 1867.)

Dr. J. Althaus, who is well known in the profession for his careful and ably conducted study of the application of galvanic and electric currents to the treatment of disease, has lately been carrying out some experiments with a view to obtaining absorption of tumors by electrolysis, which are novel and ingenious; while, according to the statement of results obtained which we append from Dr. Althaus' pen, they promise to effect a very important improvement, and to add a valuable agent to the means already at our command. He writes:—

"I was first led to adopt the electrolytic treatment in consequence of a series of microscopical observations I made some time ago, on the changes which animal structures undergo under the influence of the chemical action of the continuous galvanic current. As far as I am aware, not a single observation has yet been made by any other observer in this department of microscopical research; and, knowing the powerful electrolytic effects of the continuous current, I expected to arrive at some very curious results in undertaking these investigations.

"I have studied the action of the current upon the intimate structure of the skin and cellular tissue, muscular fibres and tendons, cartilages and bones, liver and pancreas, spleen and thyroid body, kidneys and suprarenal capsules, testicles, breasts, and ovaries. The general result has been that no animal tissue whatsoever can withstand the disintegrating effect of the negative pole, and that the force and rapidity with which this disintegration is brought about are directly proportional to the electro-motor power which is employed, and to the softness and vascularity of the structures acted upon. Thus ten cells of a battery have a more thorough and rapid effect than five, fifteen more than ten, and so on; while, as regards the tissues, those containing most water, such as

the muscles, the cellular tissue, the spleen, &c., are more rapidly disintegrated than those which contain less fluid. Bones and teeth withstand the action of the current for a considerable time.

"A most curious and novel circumstance forced itself early on my attention; and this was, that the electrolytic action of the negative pole was mainly composed of two different elements; viz., of the mechanical action of the nascent hydrogen, which was, under the microscope, seen to rise in innumerable bubbles, as soon as the circuit was closed, and to force itself, as it were, between the structural elements of the tissues, driving their fibres mechanically asunder; and secondly, of the chemical action of the free alkali (soda and potassa), which, together with the hydrogen, is developed at the negative pole of the galvanic battery.

"I have been careful in these experiments to exclude the calorific effects of the galvanic current, which is easily done by employing a battery composed of a number of cells charged merely with water and a solution of sulphate of copper, without any acid, the metals used being of medium size. The current thus produced had no effect whatever on the bulb of a Negretti and Zambra's thermometer, on which one-tenth of a degree of Fahrenheit can be easily read off. The effects of such a current are therefore simply electrolytic, and have nothing whatever to do with the galvanic cauterization.

"Seeing that such powerful effects were produced at the negative pole of the battery on structures taken out of the body, I was naturally anxious to inquire what would be the effects of the same in the living body. Having procured some *corpora vilia*, viz., frogs and rabbits, I found that the effects were, to a certain extent, identical with those obtained on dead structures; only with this difference, that, in the warm-blooded animal, the action was more rapid and energetic, which is explained by the fact that water at a temperature of 98° conducts electricity better than water at 60°. While, however, the immediate effects of the current were nearly the same in dead and living structures, considerable changes in the nutrition of the parts were observed as a remote sequela of such operations in living animals.

"It was then observed that a needle connected with the negative pole of a galvanic battery, as described above, could be inserted into, and removed from, the body without causing any loss of blood; that the current used did not appear to give any pain to the animal beyond what was due to the introduction of the needle through the skin; and that the part operated upon shrank sensibly after the operation, but that there was neither inflammation, suppuration, nor sloughing. If the negative pole was made to act upon bloodvessels, it was found that they were slowly and gradually obliterated, and filled with firm deposits of fibrine; they were thus changed into solid strings wherever the current had been made to act.

"It appeared fair to conclude, from these observations, that the current could be applied safely and successfully to such parts of the body where shrinking and disintegration of tissue, and obliteration of bloodvessels, might be required for surgical purposes. The first case in which I used it in this manner was one of nœvus of the eyelid, in a highly sensitive lady, who was under the care of Mr. White Cooper, in July last. Two operations were performed on this patient, the first on July 23d, on one half of the tumor, and the second on July 26th, on the other half. Not a drop of blood was lost during or after these operations; there was very little pain, if any; no subsequent evil effects took place; and the medical attendant of the lady (who went to the country after the operation) wrote to me on October 13th, in reply to an inquiry on my part, that soon after the operation the nœvus had disappeared, and the evil been completely obliterated.

"Since then I have operated upon cases of bronchocele, molluscum, a papillary tumor in the armpit, glandular swellings, and hydatid cysts of the muscles, (the latter in a horse, which may now be seen quite recovered at Messrs. Mayor's veterinary establishment in Park-street, Grosvenor-square), and piles. The method appears to be applicable also in aneurism, varicocele, and varicose veins generally, hydrocele, hydatid tumors of the liver, enlarged bursæ, polypus, cancer, warts, boils, carbuncles, and strictures of the œsophagus, rectum, and

urethra. The more vascular and moist the tumor, the greater will be the effect; and cases of nœvus, aneurism, &c., seem, therefore, to be best suited for the electrolytic treatment. The following are some of the advantages this method appears to have over other surgical proceedings: that it causes no bleeding during or after the operation; that there is no shock to the system; that it causes very little pain, so that neither chloroform nor ether spray is necessary; that no inflammation, suppuration, or other bad symptoms follow; and that the patients may, during the treatment, pursue their usual avocations, being not obliged to stay in bed, or even indoors. If the electrolytic treatment is not as quick as the knife, it is, on the other hand, exempt from the dangers which may follow all cutting operations; and it will, on this account be probably preferred in many cases where less safe proceedings have hitherto been employed, and where the delay of a few days or weeks appears to be of little consequence. I believe that in cancer it will be chiefly valuable, not merely by removing the present tumors, but also by so modifying the nutrition of the parts concerned, that no relapse is likely to take place there; and, if combined with an energetic constitutional treatment, it may thus indirectly help towards the eradication of the cancerous diathesis."

ART. 110.—*Weakness of Bones.*

By HOLMES COOTE, F.R.C.S., Surgeon to St. Bartholomew's Hospital.

(*On Joint Diseases; their Pathology, Diagnosis, and Treatment; including the Nature and Treatment of Deformities and Curvatures of the Spine.*)

In speaking of this very common affection among all classes, and especially the poor, Mr. Coote says, "The affection is in no way allied to rickets; the bones are simply weak, and they bend in that part which is weakest. Combined with this weakness of the bones there is often found a corresponding weakness of the ligaments. Thus, a young child may have knock-knees, and anterior and outward curvature of the tibiæ. On the other hand, the tibiæ may curve outwards, producing bow-legs. Or, again, there may be knock-knee on one side and bow-leg on the other. If the condition of knock-knee is severe, and has been of long continuance, it produces a sinking of the arch of the foot, technically termed *talipes valgus*; and under all these circumstances progression is painful, uncertain, and difficult. If the curvature be allowed to go on unchecked, it produces very serious deformity, which is irremediable in the adult without the constant employment of instruments.

"I saw a young lady, aged eighteen, in June, 1862, whose legs had been allowed during infancy to become 'bowed.' The deformity was not considerable, but it gave rise to much annoyance. In the first place her gait was not so firm and steady as it should have been. Secondly, she wore out all her shoes on the outside edge. Thirdly, the legs being not quite equally bowed, their length did not completely correspond, and a compensating curvature of the spine was the result. The parents thought that the deformity was on the increase. Now, the bones were too firm at the age of eighteen readily to yield to the pressure of a splint; the treatment should have been adopted at a much earlier age. I represented that as these changes in figure were but slight, no mechanical support was immediately indicated, but that some such measure would become imperatively necessary should the curvature increase. Long walks or constant standing was forbidden; but she was directed to ride on horseback, and pursue such habits as were calculated to improve the general health.

"In cases of confirmed knock-knee, the gait is equally uncertain and ungainly.

"In May, 1866, a respectable woman brought to me a child about three and a half years of age, who was suffering from knock-knee and curvature of the tibiæ, increasing in degree until the little girl could scarcely stand. She had been to a large hospital, and was there told that 'splints were of no use, the child must remain as it was.' It is scarcely necessary to add that long outside

splints were applied, and that complete recovery ensued after a period of eight months.

"Fear on the part of the parents that the bandages and pressure will make the limbs shrink, is without foundation. Fatty degeneration of a limb, or part of a limb, follows the loss of power along the course of nerves, but is not associated with simple pressure."

ART. 111.—*Treatment of Rickets.*

By HOLMES COOTE, F. R. C. S., Surgeon to St. Bartholomew's Hospital.

(*On Joint-Diseases.*)

Mr. Holmes Coote says, in his valuable work, that during the existence of rickets the surgeon has to remove a state of general febrile excitement, which interferes with and nearly arrests healthy nutrition. Hence we administer small doses of antimonials, hyd. c. creta, magnes., and rhubarb, to act gently on the bowels; or rhubarb and soda, castor-oil, senna. The child should be weaned, and supplied with good cow's milk. In the second stage, sea-bathing, tonics, quinine, gentian, are the measures usually found most serviceable; oxide of zinc, carbonate of iron, cod-liver oil, have also been recommended. In some constitutions the alkalies seem preferred; carbonate of soda when the bowels are relaxed; carbonate of ammonia when the heart's action requires it. The clothing should be warm, and protect both knees and elbows. The use of splints and apparatus is a subject of paramount importance, the object being to prevent alteration in the shape of the bones. If the child pass through this period of infantile suffering without great deformity, the recovery is complete. If the bones bend, the deformity is permanent. Rest in the horizontal position is also very important during some part of the day.

ART. 112.—*Clinical Studies of Cancer.*

By CHARLES H. MOORE, F. R. C. S., Surgeon to the Middlesex and to St. Luke's Hospitals.

(*British Medical Journal*, February 9, 1867.)

Mr. Moore makes the following remarks upon the treatment of primary tumors:—

"There is one question, before all others, relating to the treatment of primary cancers, which presses for attention, and which I therefore allude to in the present communication: it is the injection of such tumors with acetic acid. It is not yet possible to foresee the extension of which that method of treating cancer is capable. I have myself much hope from the employment of it; but I am already satisfied by its effects in secondary tumors, that it is not yet made applicable to the primary. From the first promulgation of this treatment by Dr. Broadbent, I have never used it nor advised it in any case for which the ordinary operation was adapted, as it did not appear right to essay a remedy so little tried, and the adequacy of which for relieving all conditions of the disease was uncertain, in any person entitled to treatment known to be effectual. Already I have come to know that both disappointment and damage have resulted from an experimental use of the acetic acid in cases of primary cancer of the breast, which were fitted for removal by the knife. It is the more incumbent on me to say this, as by announcing the destruction of cancerous matter in the interior of a lymphatic gland with this acid, and the absolute dispersion of small recurrent subcutaneous cancerous tumors by the same means, I may unwittingly have encouraged others to what I cannot but think a misapplication of the remedy. So ready a method of disposing of cancer is not yet won. Its unseen diffusion beyond the apparent limits of a tumor is too certain a fact to justify confidence in injections for the removal of it. Neither is it to be yet expected of a remedy so slow in its action, and the management of which is far

from perfected, that it should all at once supersede the more sure operation. The condition of primary tumors appears to me to make them particularly unfit for this treatment, for whilst they are growing, and may be large, the acid can only be thrown into them in small quantities, and at intervals. If used in a large quantity, it produces suppuration or sloughing, a disastrous action of a remedy in a primary cancer; and in any quantity it produces swelling, with consequent uncertainty as to the area over which the effect of the acid has been secured, and delay in pursuing the treatment. Meantime the tumors continue to grow in the parts concealed by the swelling. I cannot think this to be right treatment of a primary cancer.

"Such objections may appear to relate no less to a secondary, recurrent, or advanced, than to a primary tumor; but the circumstances are in fact very different. The treatment of the later disease is avowedly undertaken with less prospect of advantage than that of the primary. In those advanced cases the acid can achieve the reduction always, and sometimes the removal of the morbid mass; and it is only in such cases, where established methods of treatment are unsatisfactory, that those which make greater promise ought to be proved."

ART. 113.—*Acetic Acid in Epithelial Cancer.*

(*Gazette des Hôpitaux*; and *Edinburgh Medical Journal*, May, 1867.)

In a leading article of the *Gazette des Hôpitaux*, after briefly noticing the purely negative results obtained by the injection of acetic acid into true cancers, a notice is given of a series of cases reported by Dr. Dieu, of the Hôtel des Invalides, in which he had used acetic acid with the happiest results on those tumors and ulcers of the skin which are classed under the heads of "cancroïde," "noli-me-tangere," and "cutaneous epithelioma." In one of eleven years' standing, the ulceration of the lower eyelid and angle of the eye was as large as a franc-piece; yet after ten external applications of the concentrated acid during one month only, cicatrization was complete. Another in an old soldier (æt. 77), a tumor of twelve years' standing, as large as a filbert, with an indurated base, was completely removed after two injections and four applications of the concentrated acid. Three other cases were similarly treated with similar happy results.

ART. 114.—*On a New Styptic and Adhesive Fluid—Styptic Colloid.*

By BENJAMIN W. RICHARDSON, M.A., M.D., F.R.C.P., Senior Physician to the Royal Infirmary for Diseases of the Chest.

(*British Medical Journal*, April 13, 1867.)

In the first of a series of lectures on Experimental and Practical Medicine, Dr. Richardson called attention to a compound fluid for instant and ready use in the dressing of wounded surfaces: a compound which is at one and the same time a styptic, an antiseptic, and a complete means of excluding wounded, abraded, or ulcerated parts of the body from the influence of the external air. The fluid, which, for the sake of brevity, he called "Styptic Colloid," is very simple in its construction; and although the process of making it is rather prolonged, it is sufficiently easy.

The fluid consists of ether and alcohol, the ether being in excess, saturated with tannin and gun-cotton. The fluids used as solvents must both be absolute; and the ether should have a low specific gravity, and boiling-point not higher than 92°–94°. The fluid, diluted in equal parts with ether, may be used in the form of spray; but the most common way of applying it is with a brush, precisely as gum is applied.

When the solution is thus brought into contact with an open surface of the body, the resultant phenomena are these. The heat of the body gradually volatilizes the ether and alcohol; and the tannin and the cotton are thus left stranded (as the ether leaves them) on the wounded surface, in close combina-

tion. In proportion as the ether escapes, the blood or the secretion of the open surface permeates the tannin and the cotton. The tannin acts directly on the albumen, coagulating it, and transforming it into a kind of membrane almost like leather. The cotton meanwhile gives consistency to the mass, unites the whole, and promotes adhesion. As the tannin is in excess, any new exudative matter or blood is for some hours taken up by it, thus rendering the annealing process the more complete.

Dr. Richardson next proceeded to demonstrate the effects of the solution on blood, albumen, serum, liquor sanguinis, and purulent fluid. He showed that it produced solidification of all these fluids, adhesion of their parts, and deodorization when they were offensive.

By this dressing, then, the air is excluded from every possible point in a wound, in every possible direction; and that not by a mere septum, but by a direct combination of the animal fluids with the remedy.

The next part of the lecture bore on the modes of application. In the case of wounds of a recent kind, after the edges had been brought together by suture, the solution was freely applied with a brush; and a thin layer of cotton-wool, saturated in the solution, was also laid in the line of the wound. To quicken hardening, the solution should be gently breathed upon as applied. In cases of open wounds, as open ulcer, the solution should be applied directly over the open surface; and, whenever there was reappearance of purulent or other discharge, again the solution should be applied. In compound fracture, the solution might even be poured gently into the wounded cavities. In no case need the dressing be removed, unless it were raised by discharge, unless there were fetor from the wound, or unless there were some general symptoms indicating purulent formation.

After giving these general instructions, Dr. Richardson proceeded to the narration of cases in which he had applied the fluid in practice; viz., cases of profuse hemorrhage; cases of common ulceration; cases of syphilitic ulceration; cases of open cancer; and cases of recent wound. In the latter class of case he had treated with entire success an amputation of the foot by Chopart's plan, but in which the operator, Mr. Adams, owing to an ankylosis of the cuboid and os calcis, had been obliged to use the saw freely. In this case the wound healed throughout in three days; and although, at the first dressing, a portion of the newly-healed surface was torn open for about a quarter of an inch, that reunited, and, on the sixteenth day, the patient was able to return to the country quite well, having never had one unfavorable symptom.

The styptic fluid, in most cases, acts well by itself; but it also forms a base for many other useful medicinal agents.

With *creasote* and *carbolic acid*, it forms a very powerful antiseptic solution; but this solution is rather irritating.

With pure *quina*, it forms a powerful antiseptic; but the compound is not so adhesive as the base.

With *iodine*, it forms an admirable solution, especially for cases of slow, fetid, indolent ulcer, strumous in character. It also combines with *iodide of cadmium*.

With *bichloride of mercury*, it unites well, and the resultant compound is most useful in large, slow, syphilitic ulcers. The mercury salt should be added in the proportion of one-twentieth of a grain to the drachm.

With *morphea*, pure, it also combines, and forms a soothing dressing in cases of irritable ulcer.

With *cantharidine*, it combines readily, the solution producing a kind of dry blister.

ART. 115.—On the Use of Spider's Web as a Styptic.

(*Pharmaceutical Journal*, April; and *Amer. Journ. Pharm.*)

Mr. Robertson states, in the *Dental Cosmos*, that, "On one or two former occasions I have written something on the use of the spider's web as a styptic in cases of excessive hemorrhage after extracting a tooth. I now wish to add the result of my experience in another case. I do it with the hope and belief

that it may be an essential service to some of my professional brethren, and perhaps to some of their patients. It may be thus serviceable on two accounts. First, it can always be obtained, and everywhere, and sometimes when other more popular remedies cannot so readily be obtained; and second, because in my hands it has proved efficient where everything else has failed.

"About a year ago a young man, eighteen years of age, came to my office to have a lower molar tooth extracted. I examined the tooth, took my forceps, and extracted. The operation required rather less force than usual. The tooth came out entire, and clean, and with no laceration of surrounding parts, except the necessary severing of the periosteum. But from the first, blood flowed more freely than usual. I directed my patient to rinse his mouth with cold water, which he did considerably longer than the usual time of the flow of blood in such cases, but with no diminution of its flow. I then applied tannin on pledgets of moistened cotton, filling the socket with them. After repeating this application two or three times, the bleeding ceased, and he left. In about three hours after he returned, bleeding as profusely as ever. I then filled the socket from whence the tooth came with cotton saturated with perchloride of iron. This I repeated several times, with a delay of a few minutes between the applications, without any apparent effect. I next applied the persulphate of iron, full strength, in the same manner, and with no better result. Finally, I procured some spider's web, with which I filled the socket, as I had before done with the cotton, when—I need not say that I was gratified to see—the bleeding stopped almost immediately, and there was no more recurrence of it."

ART. 116.—*Acupressure.*

By WILLIAM PIRRIE, C.M., M.D., &c., and WILLIAM KEITH, M.R.C.S., M.D., &c.

(Acupressure: an excellent Method of Arresting Surgical Hemorrhage and of Accelerating the Healing of Wounds.)

The following are the seven different modes of applying acupressure detailed in this work:—

The first method consists in introducing a long needle or glass-headed pin, with bayonet point, through the flap from its cutaneous surface close to the opening of the bleeding vessel; carrying its point across the track of the artery, and then pushing its point into the tissues of the flap, it is made again to emerge upon the cutaneous aspect of the flap. It is stated that in many conditions this is an admirable method of suppressing hemorrhage, especially of the spermatic arteries in the cases of excision of the testicle, radial and ulnar arteries in cases of hemorrhage from deep wounds of the hand, &c.

The second method.—Here a short needle, threaded with iron wire, to admit of its being withdrawn, is introduced upon the cut surface of the flap. First taking up the tissues on one side of its course, it is made to emerge close to the channel of the bleeding vessel, and bridging over its track, is pushed onwards more or less deeply among the tissues beyond, so as to compress its tube and stanch the bleeding by the strain of the tissues among which either extremity of the needle has been buried. In many minor operations Dr. Pirrie has practised this method, and always with satisfactory results.

The third method is effected by transfixing the tissues lying around an arterial tube, by means of a needle introduced from the cut surface. A loop of wire is now passed over the exposed point of the needle, and the two ends of the wire together tightened round its shank, till the tissues containing the vessel, and now included between the needle and the wire, are sufficiently compressed to check all flow of blood from the open mouth.

The fourth method is precisely the same as the third, except that a steel pin with a glass head is substituted for the needle threaded with twisted wire.

The fifth method was originally employed by Sir J. Y. Simpson, in a case operated on by Dr. P. D. Handyside, but independently introduced by Dr. Knowles, a former house-surgeon in the Aberdeen Hospital (and hence called,

in Aberdeen, the Aberdeen method). This is effected by introducing a needle or pin through a modicum of tissues on one side of the artery to be compressed, and then having rotated its shank or head a quarter or half circle horizontally with the surface of the wound, its point is pushed onwards among the tissues, corresponding to the new axis of the needle, so as to maintain the occlusion of the artery by the degree of twisting of texture thus produced.

The sixth method, originated by Dr. Keith, consists in passing a pin through the tissues beside the open mouth of an artery; the duplicate of iron wire is then looped over the needle-point; the ends of the wire, instead of being bent together round the shank, are separated from each other, and made to include the bleeding vessel and the textures in which it lies, so that when the ends of the wire are crossed behind the needle-shank and tightened, the included parts are compressed on both sides of the needle.

The seventh method consists in employing a pin to compress the bleeding artery against an osseous surface in contact or in close proximity to which it lies.

Of all methods of acupressure, Dr. Pirrie says the third and the fourth are, no doubt, the most secure. The principle on which the hemorrhage is suppressed in both methods is precisely the same. For securing a vessel on a perpendicular wound, the sixth will sometimes be found a convenient method in circumstances where the performance of the third or fourth would be attended with difficulty. It has occurred to Dr. Keith to suggest that in persistent hemorrhage from any vein on the face of a stump, arrest may be safely accomplished by having recourse to either the first method or the fifth, as locality may indicate. A few hours' pressure would insure permanent occlusion, and then, without disturbance, the pin be withdrawn.

ART. 117.—*Scalds and Burns.*

(*Medical Times and Gazette*, February 16, 1867.)

The treatment invariably adopted for these, at St. Thomas's Hospital, when admitted directly after the injury, is to whitewash the parts with a paste of whiting and vinegar. This is covered with a layer of thin linen, and the whole enveloped in cotton-wool. The patients themselves acknowledge the immediate relief which this affords, and the parts usually do well. The crust which forms is left on until it crumbles off, when a fresh layer is put on; but when a granulating sore occurs, the ordinary forms of dressing are substituted.

ART. 118.—*The Use of Ergotine in Purulent Infection.*

By M. LABAT, of Bordeaux.

(*Gazette Hebdomadaire*, No. 2, 1867.)

M. Labat read a paper before the Imperial Society of Surgery, entitled "Purulent Absorption, and the means to prevent it." He believes that purulent absorption is produced by the introduction of pus into the blood, which generally occurs about the eighth day after the operation, when the engorgement of the tissue with plastic products commences to diminish, and the passage of purulent matter into the open vessels is rendered easy.

Starting from the fact that the gangrene caused by the use of ergot of rye presents itself in a dry form, which he believes to be owing more to the increased plasticity produced by the drug than to a feeble state of the arteries, M. Labat thinks that this property may be directed with success against purulent absorption.

Instead of using the ergot, which affects the stomach, M. Labat employs ergotine, which possesses all the essential properties. He administered it in gas doses to fourteen patients who had undergone surgical operation. In all these cases the results were favorable, and the purulent discharge was less abundant than in patients who had not been treated by the ergotine, and the

swelling of the tissues was not so great. As attacks of purulent infection are frequent in the Hôpital St. André, M. Labat thinks that the success attending these fourteen cases may be attributed to the medicinal treatment employed.

ART. 119.—*Hospital Gangrene.*

(*Medical Times and Gazette*, March 30, 1867.)

For hospital gangrene, or for sores when they take on an unhealthy action, Mr. J. Lane is in the habit of ordering a lotion of dilute nitric acid, and it is wonderful how speedily with it the aspect of the wound alters for the better. We noticed this more especially in two cases of railway injuries implicating the upper extremity—in one the arm had to be removed at the shoulder-joint, in the other at the elbow-joint (an operation, by-the-bye, very seldom performed, but which gives admirable results), Mr. J. Lane being the operator. Soon afterwards the wounds assumed a rather unhealthy appearance, but the nitric acid lotion quickly set them to rights.

ART. 120.—*The Rotatory Fillet: its Practical Application.*

By G. R. SHERATON, L. R. C. P. E., M. R. C. S.

(*The Medical Times and Gazette*, January 19, 1867.)

The following are a few cases in which the steel rotatory fillet (a) was employed to facilitate delivery in cases of difficult parturition, arising from the several causes in which the use of forceps, vectis, etc., was indicated.

CASE 1.—S. G., aged twenty-six years, a short and stout person, dyspeptic and hypochondriacal. At the seventh month of utero-gestation she was attacked with epileptic convulsions, which recurred at short intervals over a space of two days, and then gradually subsided. The remedies employed were—aperients, small and repeated doses of morphia, cold affusion to the head, and a blister to the nape of the neck. She had frequent bearing-down pains betwixt the convulsions, but on examination there were no other indications of labor. The “pains” subsided, and she soon was able to perform her household duties. Her previous history is particularly interesting from the circumstance that in her two former confinements (both of which I attended) the progress of the labor was impeded by contraction of the outlet, occasioned by the approximation of the tubera ischii, rendering instrumental interference necessary. The forceps could not be applied laterally, and with great difficulty I succeeded in applying them posteriorly, and in slipping them to either side, by pushing up the head from the tuberosities of the ischia to admit them. I had great difficulty in extracting, the forceps having slipped two or three times, from the great amount of force required; the perineum was slightly ruptured on the first occasion, and a stillborn child was born on both—evidently from the pressure of the points of the instruments. Pelvic abscess followed, and the convalescence was protracted. Craniotomy might have been employed with greater advantage, but there were indications of vitality of the fœtus.

On March 15th I was again sent for. She had been in labor twenty hours. The liquor amnii had escaped; the pains were frequent and straining. On examination, I found the head had descended into the cavity of the pelvis, and was occupying the normal position. There was no rigidity of the soft parts. I waited about six hours, during which time the pains became less frequent and weaker, the pulse rapid and feeble, the vagina hot and dry, and the head had not descended to any perceptible extent, but seemed closely impacted and immovable betwixt the rami ischii, as on the former occasions. I was unable to detect the placental murmur, nor yet the sound of the fœtal heart on the application of the stethoscope, and as the natural efforts seemed ineffectual, and the exhaustion infinitely greater, it was evident that the time for instrumental interference had arrived. I therefore sent for the craniotomy instruments, and in the meantime proceeded to test the efficacy of the fillet, as it afforded an excellent opportunity for so doing. I had not the slightest difficulty of introduction, no force being required to pass it over the convexity of the head. I then proceeded to rotate the blades, and had no difficulty in doing so till the blades came in contact with that portion of the head which was closely impacted between

the rami ischii, but by pushing up the head sufficient space was obtained to admit the blades of the instrument, and to pass it round the head to the desired extent. The instrument which was used on this occasion was made hurriedly, and had a long diameter of only $4\frac{1}{2}$ inches, and which I found to be too short, and I should have experienced great difficulty had not the flexibility of the blades (No. 32 wire gauge in thickness) enabled me to bring it over the long or occipito-mental diameter of the head. There were short straining pains excited during the application of the instrument. I then proceeded to apply tractile force, at first gently, and, finding that the instrument did not slip, I gradually increased the amount of traction till my whole strength was exerted upon it, and this was kept up, with short intervals of rest, till delivery was effected. I found that whilst traction was being made I was enabled to change the position of the head, and also that it exerted a certain amount of lateral compressing force upon the head. The child was stillborn, as expected. No marks, abrasions, &c., were to be observed upon it. The mother was not aware that instrumental aid had been made use of. She made a good recovery, only one visit being afterwards needed, and she was able to perform a portion of her household duties within a week.

CASE 2.—D. D., aged thirty-one years, a stout and robust woman. I was called in on April 10, and found her in labor of her sixth child. The liquor amnii had escaped the previous day without pains, but they commenced shortly afterwards and continued to increase, and at the time of my attendance were strong bearing-down pains, and the intervals extremely short. On making a vaginal examination I found a hand at the vulva (the left), the os dilatable, and the maternal passages generally in a state favorable for delivery. As nothing was to be expected from the natural efforts, I at once proceeded to deliver by turning, which was somewhat difficult to accomplish, as the uterine contractions were extremely active; but I at length succeeded in bringing down the feet and effecting delivery of the body of the child, and then I experienced considerable difficulty and was unsuccessful in my efforts to extract the head by ordinary measures. The pulsation of the cord was scarcely perceptible, and further delay would have insured the child's destruction. I introduced the blades of the fillet and passed them round the head without difficulty, and with a moderate amount of traction I accomplished the delivery without further difficulty. The secundines followed in due course, and she made a good recovery. She was not aware that instrumental aid was employed to complete the delivery.

CASE 3.—D., aged thirty-seven, in labor of her sixth child. On being called I found her in bed, the pains weak and at long intervals; she vomited incessantly, the pulse rapid and weak, and she was evidently much prostrated. She had slight pains for the last twelve hours, which had been much stronger and more frequent previous to my arrival. She had not enjoyed good health during her pregnancy, having suffered much from pain, fainting, loss of appetite, &c. On examination I found that the head had descended into the pelvis and occupied the normal position, great relaxation of the soft parts, and the head seemed of small size. I waited a considerable time, and, the vomiting having somewhat abated, I ventured to give a small quantity of pulv. ergot, and to place a bandage round her. The ergot was at once rejected, and also brandy, tea, &c. The vomiting continuing, nothing was therefore to be expected from the further administration of the ergot. The condition of the passages being most favorable for delivery, and the safety of the mother and child demanding immediate interference, I considered it a suitable case for the employment of the fillet. I introduced it with the blades a little apart, forming a sort of fenestrum; and gradually rotating the blades as I placed it over the chin, and the instrument was at once applied. A very slight amount of tractile force was sufficient to effect the delivery. In this case the application and delivery did not occupy more than one minute, and the mother was not aware that her speedy delivery was due to instrumental aid. Compression over the abdomen excited a slight pain, and the secundines separated with slight traction at the cord. There were no marks or bruises upon the child. She made a speedy recovery, being able to leave her room on the fifth day.

ART. 121.—On Paraffo-Stearine: a Substitute for Starch, Plaster of Paris, and such-like Substances, in Bandages and Splints.

By JAMES STARTIN, Esq., F.R.C.S., Senior Surgeon to the Hospital for Diseases of the Skin, etc.

(*British Medical Journal*, March 30, 1867.)

For a few months past I have been using what appears to me to be an inexpensive, useful, cleanly, elegant, and efficient desideratum, in the treatment of varicose veins and diseased joints, instead of strapping, and also in all maladies or injuries where rest, equable support, and solidity of the parts affected, are required. This consists in immersing "Domett flannel," "Welsh flannel gauze," the woven elastic or other bandage, or felt, either the common carpet felt or that prepared for surgical purposes, in a combination of equal parts of rock paraffine and stearine, as used for candles, which may be colored to a flesh-tint with alkanet root, and liquefied to a little beyond the melting-point (160° Fahr.), so as to render the composition of a temperature that may be readily manipulated without injury to the hand or part on which it is applied. Rollers or felt, the latter cut into the shape of the splint required, are to be saturated with the above melted composition, and applied whilst warm and flexible to the limb or joint; when, if needed, further strength and solidity may be given by varnishing a portion of the melted composition over the splint or bandage with a painter's brush, and afterwards smoothing the whole with the palm of the hand, until it assumes the surface of ivory, or the well-known appearance of a paraffine or stearine candle. A fold of linen, dipped in cold water, is finally to be passed round the bandage or splint, which immediately solidifies the melted paraffo-stearine, when the application is complete; and the wet linen may be continued as an evaporating lotion, if desired. Into this bandage or splint, openings may be readily cut by means of scissors curved on their cutting edge into the segment of a circle, or bent to an obtuse angle; the melted composition being afterwards applied over the cut edges of the opening, so as to form a complete solid case, allowing the escape, through such openings, of discharges, and the application of dressings. It will be perceived that, by dividing the paraffo-stearine bandage, and removing, say half an inch, or separating it into halves, and trimming the edges in the usual manner, splints will be formed having the exact configuration of the part to which they are to be applied, and that these splints can be lined with flannel, wash-leather, etc., and strengthened with the melted paraffo-stearine to any extent required. Mr. Ewen, Jermyn Street, the well-known plaster and bandage manufacturer, has undertaken to prepare and furnish these appliances, accompanied by directions for their employment.¹ Each bandage will be found soaked in paraffo-stearine, with a portion of the prepared composition in its containing canister, for varnishing the bandage or splint, if needed, *after it has been tightly and evenly rolled, or applied to the affected part*. The felt is supplied in sheets of convenient size, saturated with the composition, from which the splints can be cut, and after they have been moulded to the part requiring them as described.

All that is needed before employing these appliances, as prepared ready for use, is to put the canister containing the bandage and a portion of the paraffo-stearine for varnishing into boiling water until liquefied; and the piece of prepared felt may be held before a fire or immersed in water a little below the boiling point, until it acquires the requisite flexibility, when it can be fixed where required by the ordinary procedure, varnished and finished by the aid of the canister of paraffo-stearine and brush sold with it, and finally solidified by surrounding it with linen dipped in cold water. Or, the whole of the appliances described can be readily extemporized by the aid of a pound or two of paraffine or stearine candles, a jug or jar in a saucepan of boiling water for melting the same, a rolled flannel, Domett, or other bandage, and a shaving-brush; or,

¹ They will also be prepared by Messrs. Savory and Moore of New Bond Street.

should a splint and not a bandage be preferred, a strip of felt carpet, cut into the required shape, and also rolled together, so as to be immersed in the melted candle composition in the jar.

I have found that the best mode of procuring the stearine, or rock paraffin, when a moderate quantity only is required, is to purchase the candles (so called) from any respectable tradesman or the candle-companies, asking for the stearine candles used for India, the melting point of which is about 157° Fahr. (the cost is one shilling a pound); or the rock paraffine, which melt at 135°, and cost the same price, at Messrs. Neighbour and Sons, Regent-street. I have observed that a mixture of the two sorts of candles is the most suitable; but either one of them can, of course, be used separately. If this be done, however, the paraffine should be employed in winter and the stearine in summer; and I may observe that all the bandages and splints may, by remelting, be used a second or third time, thus rendering them amongst the most economical of applications; and it may also be well to mention that, when the removal of a bandage is required, it may be at once softened and taken off by brushing it over with any of the benzines used for cleaning gloves; that of Farey of Regent-street being the most suitable.¹ Each variety of benzine mentioned, according to my experience of several years, will be found a most useful surgical accessory, not only to clean the skin and hair from all their natural or acquired oily or sebaceous secretions, but also to remove grease, plasters, &c., from the cutaneous surface without causing local irritation; and, for these purposes, I have much pleasure in introducing it as a therapeutic agent to the profession, which has the property (as I often say to my patients) of cleansing a living skin as effectually as a dead one; and for such purposes, I doubt not, it will come into general requisition, perhaps even as extensively as glycerine, which I introduced twenty-four years ago, and which I have lived to find the subject of memoirs and special treatises advocating its employment for the purposes for which I originally recommended it, without even the mention of my name.

ART. 122.—*A Dressing for Wounds.*

(*British Medical Journal*, March 23, 1867.)

French surgeons, while gradually accepting the abolition of "the classic dressing of cerate and dry charpie" which has so long been exiled from our wards, are still loth to accept the simple water-dressing which for so many years has rendered such immense services to the English school of surgery. Alcohol and glycerine have been the two latest introductions. M. Foucher combines the two (*Journal de Médecine Pratique*), and adds chlorate of potash—alcohol, 400 parts; glycerine, 625 parts; chlorate of potash, 40 parts. This gives a transparent liquid, which does not stain the dressings. It is less painful than alcohol, and no doubt useful for flaccid or unhealthy wounds.

ART. 123.—*The Ether-Spray Process as an Aid to Diagnosis.*

By EDWIN HAWARD, M. D., Physician to the Westminster General Dispensary.

(*Medical Times and Gazette*, January 12, 1867.)

A short time since a married lady, aged forty, called on Dr. Haward for advice for an obscure affection of the right hand and forearm, which, she stated, had lasted several weeks, and for which she had sought relief without obtaining much benefit. The symptoms had been considered to be constitutional, and were treated accordingly. The symptoms presented were those of a neuralgic affection of the ulnar nerve, accompanied by a tingling of the hand and forearm, with contraction of the fingers supplied by that nerve, and a tenderness more

¹ Purified benzine can also be obtained of Messrs. Taylor of Vere-street, Savory and Moore of New Bond-street, Waugh of Regent-street, &c.

or less over the region. On following up more closely the course of the ulnar nerve above the elbow-joint, and where it rests on the inner head of the triceps muscle, and before it reaches the groove between the internal condyle of the humerus and the olecranon, a peculiar indefinite swelling was at once perceptible, which when pressed produced pain, accompanied by a numbness of the hand and great tingling of the fingers. Dr. Haward subsequently ascertained that eleven years since the patient had experienced a severe attack of rheumatism, which affected more particularly the same elbow; he therefore inferred that the symptoms were due to direct local pressure upon the nerve, and were a sequela of the rheumatic disease.

The diagnosis of this case being somewhat obscure, and Dr. Haward's opinion being opposed to that of her late medical adviser, he suggested that another consultation should be held, when Dr. Richardson kindly gave his view of the case. He suggested the use of the ether-spray for the purpose of alleviating the paroxysms of pain, which were continually recurring.

The effect of the spray was instantaneous relief of pain, whilst the contraction of the fingers completely passed away. The patient, who had not slept for many nights in succession, now obtained refreshing sleep, and the following day she came to Dr. Haward, a distance of three miles, looking quite another person. Thus far as to the curative powers of the remedy in alleviating the local pain as a means of diagnosis in detecting the nature of this somewhat obscure affection. Dr. Haward states that "as the limb was loaded with fat, as the swelling was very badly definable, as there was great hardness of structure, and as all attempts at manipulation produced great pain, it was difficult to say what was the exact nature of the mischief below. There might be cyst containing fluid, and rendering the operation of tapping a good practice; there might be a fatty tumor, elongated and flat; or there might be simply exudative matter which had undergone solidification.

"Dr. Richardson took the centre of the tumor as the spot where to direct the ether-spray, and, after about twenty strokes, rendered insensible a space the size of a crown-piece; he then used the spray like a brush, and made the parts equally insensible in the long axis of the swelling; as the skin became hard, the subjacent tissues shrank quickly to their normal proportions, and, indeed, what had been previously a well-marked enlargement, and noticeable by every one, and conveying almost the idea of a distortion, had entirely disappeared. The insensibility once set up was sustained until the deepest structures were involved in it, including the front of the nerve; then, by placing our warm hands over the skin, we were not only able to examine, with firm pressure, without giving the slightest pain, but, as the skin softened, the whole of the structure came under our fingers, softened, and, if I may use such a common expression, like kneaded dough; we could thus take up the tissues, inch by inch, between the fingers, and were able to say that there was no cyst and no tumor. The treatment since this examination has consisted in relieving pain by the occasional use of the spray, and in painting freely the surface affected with tincture of iodine and oil. The result, in every sense, is most satisfactory; the deep swelling is almost entirely taken away, the numbness and tingling of the hand and fingers have subsided, and, in a word, the normal conditions are nearly restored."

ART. 124.—*Syphilization.*

Mr. Henry Lee makes some very valuable and important remarks, in a letter to the Editor of the *Medical Times and Gazette* of February 9th, 1867, on a patient who was supposed to be "thoroughly syphilized," and who was inoculated with some matter from a spreading sore. The consequence was that each of the inoculated points took on a similar action to that of the sore from which the inoculated matter was taken.

Mr. Lee says, "We have here direct experimental proof of a fact which has long been maintained by myself and others—namely, that immunity to one kind of syphilitic matter does not necessarily protect a patient's system against the effects of matter of a different nature. All who have had much experience

upon this subject must now know that the ordinary secretion of an indurated sore will, when inoculated, often produce no result, while the secretion from a suppurating sore will produce upon the same patient the specific pustule. But the converse of this—namely, that a patient may become proof against any further inoculation from a suppurating sore, and yet be liable to infection from other kinds of syphilitic matter—is a fact which has certainly not hitherto received in England that attention which its importance demands. Practically, some approximation to an illustration of this subject may be afforded. A patient may have a series of soft suppurating sores without any constitutional effects being produced. He may then have an indurated sore, followed by the ordinary train of secondary symptoms. This I have frequently witnessed. The suppurating sores do not prevent or modify the indurated sore; and the indurated sore, on the other hand, does not prevent the repeated inoculation of the secretion of the suppurating sores.

“In the experiment above referred to, we may infer that the immunity was produced by the usual mode of inoculation lately practised in England—namely, by a very slight abrasion of the cuticle with the point of a lancet. This kind of immunity, as lately shown, does not imply immunity as far as the deeper structures of the skin are concerned, nor does it imply immunity for other parts of the body, and still less does it imply immunity against the action of other kinds of secretion.

“As far as our evidence at present goes, a patient might therefore be ‘thoroughly syphilized,’ as far as it could be done, by the secretion from ordinary suppurating sores on the surface of the skin, and yet be as liable as any one else to be subsequently infected with the constitutional form of syphilis.”

ART. 125.—*Clinical Studies of Cancer.—Treatment of Primary Tumors: Delay.*

By CHARLES H. MOORE, F. R. C. S., Surgeon to the Middlesex and to St. Luke's Hospitals.

(*British Medical Journal*, June 1, 1867.)

In this interesting paper Mr. Moore says, great as he deems the error of treating primary cancers by the injection of acetic acid, it is small in comparison with the delusive trifling with them which occurs in the practice of certain persons, and especially in homœopathy. When acetic acid fails, the disappointed surgeon resorts to the operation which he should have performed at the first. But, in other practice to which Mr. Moore now refers, inadequate or negative treatment is sometimes persisted in until tumors have become well-nigh or wholly unsuited for operation. Mr. Moore asks, to what extent may success be looked for in the treatment of primary cancer? “It is a fact,” he says, “both that small variations take place in the apparent size of a tumor, and also that a certain diminution of its bulk may sometimes be obtained by improving the general health, or by suitable local applications. And this statement is not to be confined to innocent tumors, but is true of those also which are cancerous. Indeed, the greater perfection attained in the growth of an innocent tumor confers on it a more stable vitality than is possessed by the elements of cancer, which are at once more multiplied and less mature. Approaching the natural textures in the quality of elaboration, an innocent tumor imitates them in the resistance to artificial destruction, and is therefore much less than cancer is under the control of remedies. But the diminution of a cancerous tumor which follows upon suitable treatment, apart from the direct effect of local applications upon the skin, is not mainly due to the removal of essential constituents of the tumor. It may be doubted if any part of it which retains the germinating power can be thus destroyed. Contained liquid may be absorbed, surrounding œdema may disperse, and to that extent the growing of the tumor may be arrested, as well as its size reduced. It may be said that, in some cases, a texture once stiff with cancer becomes supple and all but sound again. Even there, however, a residue of the living cancerous element still

exists, which may at any time break forth in a renewed growth. Such temporary and partial reduction of a cancerous tumor affords no justification for pursuing inadequate treatment, when the nature of the disease has been recognized and the tumor may be otherwise removed. But what shall be said of a reckless dallying with growing tumors, such as is illustrated in the following two cases? Surely fairness towards our patients requires that we should neither persuade them to adopt useless treatment in the stead of that which is efficient, nor practically consent to their pursuing it when it is hopeless. The connivance of the practitioner in such proceeding results in a fatal, though unseen, dissemination of cancer into adjoining healthy structure, or in a serious increase of the extent and risk of the inevitable operation.

"A widow, aged fifty-eight, whose life had been always healthy, found a tumor of the size of a pea in the right breast. She committed herself to homœopathic treatment for nine months, after which I saw her. Deep in the upper part of the right breast was an oval tumor, having its long direction horizontal, in size between that of a hen's egg and that of a goose's egg. It was slightly granular on its surface, and hard. Though feeling movable, it was in fact closely connected with the breast-tissue, the looseness of which permitted the tumor to roll about. The skin was healthy and still unattached to it; the nipple could be drawn out; there was no adhesion to the pectoral muscle, and no trace of glandular disease. The tumor was sometimes the seat of shooting pain, and it ached after handling.

"Satisfied of the cancerous nature of this disease, I advised that it should be removed. The patient adopted my advice; but, notwithstanding her disappointment with homœopathy, she continued true to the feeling of distrust which she had conceived toward the profession, and she resorted to some unrecognized practitioner for what operation he might practise upon her.

"The left breast of a delicate lady, under forty years of age, contained a tumor of the size of a small cocoa-nut. During two years, in which this tumor had grown from the size of a walnut to its present dimensions, the patient had taken homœopathic medicines, and had not only encouraged herself to hope that they might reduce the tumor, but had apparently failed to notice the fact of its steady increase. It was lobed, convex, inelastic, firm, and tender. The skin adhered closely to it in two parts, and was there red, thin, shining, and tense. Large veins passed from this portion of the tumor over the healthy part of the breast. The mass moved freely upon the pectoral muscle, and there was no trace of axillary disease.

"It was still possible to remove this breast, and I gave advice that it should be done.

"A disastrous delay arose in the following case also, from misplaced confidence in the efficacy of treatment. Whether the error were on the part of the patient or of his medical adviser, a man was allowed to get worse, and so much worse that it was doubtful if his case must not be abandoned, when a double operation rescued him from early death, and restored him to comfort and health for the greater part of a year. It is not yet certain that his useful life will not be further prolonged; but already the patient has, from his point of view, an unanswerable argument against the mistaken kindness of treating cancer without operation.

"A slender man, of about fifty years of age, was sent to me in a wretched condition, with extensive disease of the tongue. From the tip to near the fauces on the left side, and an inch in front of the fauces on the right, the organ was one firm mass of cancer. It was uneven and indented; its whole surface was ulcerated, and the edge was everted and thin. The movements of the tongue were restricted; the mass being capable of moving as a whole, but not of rising from the floor of the mouth, or passing laterally beyond the lower teeth. There was no apparent glandular disease. Saliva flowed copiously, and there was pain in the left ear and temple.

"For several months this man had been pursuing in vain a course of treatment at the Cancer Hospital at Brompton. It had now become doubtful if the disease were capable of removal.

"February 28th, 1866. He took chloroform; and I made an incision in the

floor of the mouth within the curve of the jaw, divided the geniohyo-glossi and other soft parts in the floor of the mouth, drew forward the diseased mass, and encircled the tongue behind it with the loop of an *écraseur*. On the separation of the mass, there was free hemorrhage, which ceased on the ligature of the lingual vessels.

"He lost at once the pain in the ear and temple. On the fifth day he spoke intelligibly, and on the eighth day he got up.

"April 1st. The wound had nearly cicatrized. The scar was small; and the stump of the tongue was rounded towards it, and convex, though not tipped. On the left side the tongue was soft and healthy; on the right, there was a small firm projection, having no characteristic appearance of cancer, but still unhealed. It was continuous with some hardness in front of it at the floor of the mouth. At my visits lately, I had found the region of the submaxillary glands much swollen, and feeling firm, though rounded and smooth. At first I looked upon this as the outbreak of the disease in the glands; but he assured me that the swelling came on during dinner, and disappeared in an hour; and that, when greatest, it caused pain. I ascertained the fact of the variability in the size of the submaxillary glands, and then concluded that the Whartonian ducts were obstructed in the scar at the floor of the mouth, and that the swelling of the glands was due to accumulated saliva, and their subsidence to its gradual escape. He had regained much strength and natural manner, and he spoke quite intelligibly.

"April 5th. After chloroform, I excised the suspected bit at the right of the stump of the tongue, and then took away what was firm and fibrous at the floor of the mouth. In this latter place there appeared to be chiefly scar, but some of the solid material was gray cancer. There being some inconvenient oozing of blood, it was necessary to use the actual canter, and afterwards to apply the perchloride of iron.

"He left the hospital, with the wound healed, on the 25th of April.

"During the remainder of the year he occasionally called at the hospital. The stump of his tongue remained perfectly well, and his speech became remarkably clear and good. But in February, 1867, the mucous membrane on the left of his tongue became superficially ulcerated over several firm rather than hard nodules, which could be felt in the substance of the tongue. Another and more superficial thickening formed on the right side also, fitting the angle between two sound upper molar teeth, and covered with white epithelium. At the same time, the man's lips were covered with herpes, and his stomach was out of order. It was, consequently, not quite certain that the renewed disease in the tongue was cancerous. But when, after treatment and the disappearance of the eruption around his mouth, as well as of the thickening on the right of the tongue, the nodules on the right side did not lessen, I advised him to submit to a fourth removal of the tongue. While he hesitated, I injected the diseased spots with acetic acid."

ART. 126.—*Cases of Cancer Treated by Dr. Broadbent's Method: Injection with Acetic Acid.*

Under the care of Mr. WEEDEN COOKE, at the Cancer Hospital.

(*British Medical Journal*, June 1, 1867.)

Dr. Broadbent's suggestion of a new method of treating cancer is based, as our readers are probably aware, on the very ingenious theory that as diluted acetic acid shrivels up cancer-cells when observed under the microscope, it will act in the same manner when injected into the living tumor; and that as this acid does not coagulate albumen, the injected fluid will permeate the tumor, and so the obnoxious cells will thus be deprived of their vitality, and the whole mass shrivel and become inert, and cease to grow. The four illustrating cases given in the pamphlet were by no means in their results, in Mr. Weedon Cooke's opinion, calculated to support the theory; but nevertheless he proceeded to put this new suggestion to the test of practice, although he did not forget that

chemical actions upon dead and living tissues have widely different effects. Neither did it seem likely to him, *a priori*, that acetic acid would find its way more readily into the hard centre of a scirrhus than solutions of iodine, iron, &c., which he had himself previously employed. However, he selected four cases of scirrhus of the breast, one of epithelioma of the rectum, and two of epithelioma of the cheek. He used one part of acid to three of water. The pain produced was not very severe in any of these cases, except in that of the poor fellow who had cancer of the rectum, and he suffered so severely that he would not submit to it more than twice, and it unfortunately happened that the disease was considerably aggravated by these injections. In the two cases of epithelioma of the cheek no effect was produced by the weakened acid. In one case much stronger acid was used, and then some slight sloughing was produced, but the disease continued to grow. Inflammation arose in the first case of scirrhus of the breast, and recurred upon a subsequent injection three weeks after; much pain ensued, and the patient was unable to attend again. She was a weakly-nervous person. The same injection was used on another out-patient twice without any good or ill effects, and she returned to the country. A very vascular though hard tumor of the breast in a young woman was injected once. Considerable pain was set up, and some inflammation, followed by sloughing, ensued; but the wound healed again fortunately, and the experiment was not repeated. In the case of an old woman in the Cancer Hospital the injection was repeated six times. It seemed to be a favorable case, owing to the presence of cysts in the scirrhus, and the pain produced was bearable; some lessening of the tumor occurred for two months, but the action set up was too much for its vitality; the disintegration proceeded to suppuration, then to hemorrhage, and the end was not long.

A gentleman came to Mr. Weeden Cooke, two months ago, with a very extensive epithelial cancer of the cheek, for which he had been injected by able surgeons several times. The cancer continued to grow rapidly, nevertheless. A patient now under Mr. Cook's care with ulcerated scirrhus of the breast has been injected, she thinks, twenty times at the London Hospital, and the tumor was not broken when the treatment was commenced. It has also greatly increased in size.

ART. 127.—*Fifteen Cases in which Cancerous Tumors were Injected according to the Method of Professor Thiersch.*

By Professor NUSSBAUM.

(*Aerztliches Intelligenz-Blatt*, No. 17, 1867; *Gazette Hebdomadaire*, No. 20, 1867.)

Professor Nussbaum, encouraged by the success which followed the employment of nitrate of silver injections in a case of cancer of the mastoid region, has repeated his observations upon a large scale, and is enabled to give the results of fifteen cases. He has tried by turns, and sometimes on the same patient, injections of nitrate of silver and common salt, of pepsine, and of acetic acid.

The solution of nitrate of silver ought to be composed of one part of the salt and 2000 parts of water, that of chloride of sodium of one part of salt and 1000 parts of water. The injections of acetic acid should be made with a solution containing one part of concentrated acid and three parts of water.

It is of great consequence to employ, particularly in injections of nitrate of silver, the directed solution, otherwise the surgeon may run the risk of not completely saturating the tissues. When it is desired to saturate the tumor, the injections should be made at several parts of the tumor. The solution may also be used in the dressings for covering the tumor. The liquid was injected by M. Nussbaum with a syringe made of glass and silver, and which contained about seven centigrammes of the solution, and was furnished with a long canula.

It is important to puncture the tumor in all directions, and deeply into its tissue. The quantity of solution used varied according to the case. In some

instances seven grammes only were injected, but in others as much as thirty-seven grammes of the solution of nitrate of silver was used. The injection of the chloride of sodium ought immediately to follow that of the nitrate of silver. The proportion of the two solutions has not been rigorously fixed; but generally the solution of salt is one-half less, and frequently one-third.

The quantity of pepsine injected by Professor Nussbaum was generally seven grammes.

The immediate effects produced by these different injections were always severe, and the pain in some cases so acute as to necessitate recourse to chloroform. Nussbaum has frequently seen fainting and even syncope occur during the injections of acetic acid and pepsine; and he prefers the use of nitrate of silver and chloride of sodium, because these do not produce such severe effects. Rigors and fever frequently come on after the injections, and the reaction is sometimes so considerable as to make it necessary to discontinue the treatment. Locally, the injections produce oedema, inflammatory swelling, and frequently suppuration and gangrene. It is to these effects certainly that the most decisive results have to a great extent been due, but yet they are not what the surgeon looks for. Thiersch endeavors to bring about a disturbed nutrition of the elements of the tumor, which may cause them to disappear, and not an extensive gangrene of the tissues like that produced by caustics.

The first result of an injection of nitrate of silver and chloride of sodium is the removal of the foetid odor from an ulcerated cancerous tumor. This odor may return after a single injection; but when the operation has been repeated, it disappears altogether. In favorable cases, a healthy suppuration is established, the ulcerations granulate, and cicatrization is perfected.

The following are the results obtained by Professor Nussbaum:—

In four of the fifteen cases the treatment completely failed; it was applied to a cancer of the breast, a cancer of the parotid gland, a cancer of the rectum, and to a glandular enlargement in the neck. In two of these cases the patient died in a state of marasmus. In the last case in which pepsine was injected, syncope and cyanosis were produced, and the treatment had to be discontinued.

In six cases there was marked improvement, but in these either the patients refused the continuation of the injection, and the treatment was not completely carried out, or the disease relapsed.

The remaining four cases, Professor Nussbaum considers to be truly successful. In one of these he injected seven grammes of pepsine into a cancerous tumor of the parotid gland; there was an apparent cure, but the tumor returned in the mouth.

In another case, a cancer of the breast was apparently cured after injections of nitrate of silver and salt; but there was a relapse. The third successful case was one of an enlarged gland in the axilla of a man aged twenty-nine; but it is doubtful whether this was a cancerous tumor.

The fourth successful case was one of an enormous ulcerated cancer of the breast, which had involved the subjacent ribs and the intercostal spaces. Repeated injections of nitrate of silver and salt were made; numerous abscesses formed, and portions of the tumor mortified and were cut off. The final result of the treatment was cicatrization of nearly the whole surface of the cancerous ulcer.

Professor Nussbaum thinks that the plan of treating cancerous tumors by injection of nitrate of silver and chloride of sodium ought to rank with that of cauterization by arrows, and that it is applicable in cases where the surgeon would not dare to use the caustic; as, for instance, when the thoracic walls are deeply involved. He believes that the employment of pepsine and acetic acid as injections ought to be restricted, on account of their producing pain, syncope, and violent reaction.

ART. 128.—*Indolent Ulcers.*

By D. A. MORSE, M.D.

(Canada Medical Journal, April, 1867.)

The most satisfactory mode of treatment for an indolent ulcer, around which the tissues are indurated and the surface black, with considerable congestion, is to fill the excavation with a powder composed of—as a whole—ten parts: seven of acet. plumbi, one of pulv. opii, two of calomel. Morphine may be substituted for opium. This, while it excites proper action in the parts, relieves pain, unloads the vessel, and will sometimes change the color of surrounding parts, in twenty-four hours, to a bright red. In varicose ulcers the lead has a good effect upon the dilated vessels. Apply adhesive plaster to the limb, that the pressure may aid in relieving congestion. The straps will depress elevated edges. The ulcer will heal kindly.

SECT. II.—SPECIAL QUESTIONS IN SURGERY.

(A) CONCERNING THE HEAD AND NECK.

ART. 129.—*Foreign Bodies in the Brain and Lachrymal Canal.*

By Dr. STANGLMAYER.

(Bayer. Aerztliches Intelligenz-Blatt, 1866; Schmidt's Jahrbücher, 1867.)

The patient was a man forty-eight years of age, a well-known prize-fighter, and of powerful build. Eight days before his death he was in perfect health. His illness commenced with headache, and in a violent fit of sneezing a portion of a knife-blade, which weighed about half a drachm, was passed from the right nostril, after which he became unconscious and soon died. It was discovered afterwards that this knife-blade was forced into the inner angle of the eye thirteen years before, which accident produced a gap in the bone of the skull three and a quarter centimetres long and one and a half wide, in which orifice the lachrymal and palate bones and the orbital plate of the superior maxilla were involved. It also came out that this same man was seventeen years ago struck over the left parietal bone by a knife, the point of which penetrated into the cavity of the skull about one centimetre, and passed into the cortical substance of the left hemisphere. In this part there was found after death a circumscribed patch of softening; and also about a third part of the right anterior lobe of the cerebrum was broken down into soft material, which process appeared to have commenced in the neighborhood of the crista galli, and the internal orbital foramina.

ART. 130.—*Case of Disease of the Antrum.*

Under the care of Mr. HENRY SMITH.

(British Medical Journal, March 2, 1867.)

It is not always easy to distinguish between fluid accumulation in the antrum, and a tumor, malignant or otherwise, developed in the interior of that cavity. In the former case the uniform enlargement of the antrum, and the previous history, may enable the surgeon to diagnose that the swelling is not of a solid character; but it sometimes happens that the appearances of the part are such as to mislead even experienced practitioners, and it is recorded of no less a man than Gensoul, of Lyons, to whom surgery is indebted for the performance of the first case of excision of the upper jaw, that he once cut down upon the cheek with the intention of removing the upper jaw, when the case was not one of tumor, but of purulent accumulation within the antrum. A case lately presented

itself at King's College Hospital, in which the fortunate supervention of an attack of erysipelas of the face saved the surgeon from a repetition of Gensoul's mistake. A middle-aged woman was admitted under Mr. Smith's care, with a large swelling in the right cheek, which was pronounced, after examination by Sir W. Fergusson and Mr. Smith, to be probably due to the development of a malignant tumor in the antrum Highmori. There being no enlargement of the glands under the jaw, the case was thought to be a favorable one for excision of the upper jaw. Fortunately, however, while the patient was in the hospital she had an attack of erysipelas of the face, which lasted between two and three weeks; and at the end of this time the swelling in the cheek, which had increased considerably, diminished suddenly on the bursting of an abscess beneath the under eyelid. This materially altered the view taken of the case, and then all idea of removing the upper jaw was abandoned. As the swelling in the cheek, however, did not disappear entirely, after another three weeks had elapsed, Mr. Smith performed the usual operation for evacuating any fluid matter pent up within the antrum. The second molar tooth, the fangs of which correspond to the floor of the cavity, was extracted, and a large triangular trocar was pushed up its socket. No pus came away, however; and, after nipping away a portion of the alveolar ridge, so as to be able to pass a finger into the antrum, the cause of the mischief was found to be necrosis of a portion of the bony wall of the antrum, which part was consequently removed. This case is of considerable interest as showing the difficulty of making a sure diagnosis between disease calling for removal of the upper jaw, and disease limited to a portion of the maxilla only. It teaches this lesson, that in all instances in which the least doubt exists as to the nature of the affection, a preparatory puncture should be made into the antrum by means of a perforator, either pushed through the socket of the second molar tooth after its extraction, as was done by Mr. Smith, or through the canine fossa under the cheek.

ART. 131.—On the Choice of Astringent Applications for Purulent Catarrh of the Ear.

By Dr. A. POLITZER.

(*Wien. Med. Presse*, 1866; *Schmidt's Jahrbücher*, 1867.)

Dr. Politzer dwells strongly upon the fact that the application of astringent remedies in acute cases, and when symptoms of irritation are present, is frequently very pernicious. Symptoms of inflammation frequently come on during a chronic discharge from the ear; and these are often aggravated by astringent drops.

In cases of active purulent catarrh of the membrana tympani, weak solutions of the preparations of zinc and lead are very efficacious. The preparations of lead frequently act quicker after a zinc solution has been used for a few days before. Perchloride of iron, alumin, and nitrate of silver, are not generally adapted to acute cases. In cases of chronic otorrhœa, attention should be turned to the size of the perforation, for when the orifice is large, solutions which might produce permanent precipitates in the tympanum, such as those of the preparation of lead and iron, ought not to be used. Weak solutions of zinc and of powdered alumin are best adapted for those forms of purulent catarrh which are connected with a large-sized perforation of the membrana tympani.

In cases of purulent catarrh with a small perforation of the membrana tympani, a solution of lead dropped in is very useful. The solutions of perchloride of iron, nitrate of silver, and alumin, in cases of chronic otorrhœa are generally of but little use; the concentrated solution of perchloride of iron may, however, be applied with success to extensive growths of the membrana tympani and meatus. An extremely favorable result has been brought about in many cases by the use of powdered alumin in purulent catarrh. *The solutions of tannin are uncertain in their action.* Most of these preparations lose their favorable action after being applied for too long a time without being suspended. Some-

times polypi and growths form during the long-continued and useless application of an astringent solution. No preparation should be applied for a longer period than from three to five weeks, and an interval of from eight to fourteen days should be allowed to expire before another remedy is resorted to. Experience teaches that the fresh remedy then acts better than it would have done if applied directly after the omission of the preceding one.

ART. 132.—*On Subjective Auditory Phenomena dependent upon Disease of the Organs of Hearing.*

By Dr. ADAM POLITZER.

(*Wien. Med. Wochenschr.*, 1865; *Schmidt's Jahrbücher*, 1867.)

The following affections of the organs of hearing may excite buzzing or rushing noises in the ears:—

1. Ceruminous concretions. The rushing noise in cases of this kind may be caused by abnormal pressure upon the membrana tympani and the structures in connection with it, or less frequently by retention of air within the external meatus.

2. Furuncle of the meatus auditorius externus. Here the cause of the noise may be closing of the meatus, sometimes associated with hyperæmia of the membrana tympani and labyrinth, or reflex-action of the auditory nerve, excited through those branches of the fifth nerve which are distributed to the external ear.

3. Eczema of the outer portion of the meatus. The cause of the rushing may be obstruction of the meatus externus through excreted epidermis, co-existent swelling of the mucous membrane of the tympanum, or reflex-action of the auditory nerve.

4. Acute inflammation of the membrana tympani, producing hyperæmia of the labyrinth.

5. Affections of the tympanum are the causes, in more than two-thirds of all the cases, of buzzing in the ears. The noises occur far less frequently in purulent catarrh with perforation of the membrana tympani than in simple catarrh without a perforation. The noise may be owing to great intra-auricular pressure, which causes an abnormal stretching and irritation of the terminal fibres of the auditory nerve, and also disturbs the circulation in the labyrinth, and consequently the nutrition of the nerves. Hyperæmia of the tympanic mucous membrane or secondary changes in the labyrinth, such as persistent hyperæmia, dilatation of the vessels, chronic exudation, and the formation of chalk-stones and pigment, may be the causes of subjective sensations of hearing.

6. Primary structural changes in the labyrinth, as ecchymoses, extravasations of blood, new formations in the cochlea and in the nerve-tissues; chalk masses in the labyrinth, varicose dilatation of the vessels of the auditory nerves, colloid degeneration of the nerves.

Politzer, from his own extensive experience, is able to corroborate Türk's assertion, that subjective noises can in many cases be varied in intensity by pressure upon the mastoid process of the temporal bone, or upon the first cervical vertebrae. It was observed in cases of disease of the tympanum and Eustachian tube, also in cases where the diagnosis between the disease of the tympanum and labyrinth was uncertain, that the noises were in many instances diminished, and also in some cases, but less frequently, increased in intensity, so long as pressure was made upon the mastoid process. Politzer also mentions a remarkable phenomenon which has been observed, but of which he cannot give an explanation, in an instance of impaired hearing on one side; when the sound ear was stopped by the finger a rushing noise was heard in the opposite diseased organ: this noise, according to the statement of the patient, was of great intensity, but disappeared as soon as the finger was removed from the healthy ear.

Politzer mentions the following as noises produced in the internal ear. 1. The snapping noise, which, according to J. Muller, is caused by the spasmodic contraction of the tensor tympani muscle. 2. The rattling noise dependent

upon catarrh of the middle ear. 3. The noise caused by the circulation of the blood.

Politzer does not speak favorably of the action of the narcotic internal remedies which have been recommended in cases of subjective noises in the ears; but he has, however, observed a very great abatement of the annoyance after the *external* application of narcotics, either as embrocation or in drops. He places no reliance upon counter-irritants, blisters, &c. Internal remedies have but very little influence, except in exceptional instances, such as cases of constitutional syphilis, which should be treated by iodide of potassium.

ART. 133.—*Necrosis of the Lower Jaw: Removal of Dead Bone.*

Under the care of Sir WILLIAM FERGUSSON.

(*British Medical Journal*, February 16, 1867.)

Necrosis of the lower jaw used to be a common affection when ordinary phosphorus, instead of the red variety, was employed in the manufacture of lucifer-matches; but it rarely occurs idiopathically, as the result of inflammation of periosteum covering the bone, as was the case in the present instance. The patient was a common laborer, about fifty years old. He had been a sufferer for six years; and, as Sir W. Fergusson remarked, this was no extraordinary length of time for necrosed bone in the lower jaw to remain fixed. As a rule, separation was very slowly effected in such cases, more slowly than in other bones; and he had seen the alveolar ridge of the inferior maxilla, and as much as half an inch of the bone below it, lying bare in the mouth for years without becoming loose. In the present instance, a large oval piece of dead bone was easily extracted from the front of the lower jaw; but some difficulty was experienced in pulling away another large fragment of bone from the left side, where it was imbedded in new bone and hardened tissues, and in an elevator had to be used. Behind this last, and higher up, was a third piece, which no attempt was made to remove on this occasion, as it was not yet perfectly loose. Sir William observed, however, that he expected that this piece would very soon become loose, as after the removal of a large piece of necrosed bone, it generally happens that smaller pieces subsequently get detached of themselves, and are pushed up, as it were, by the granulations. In a middle-aged female who came into the operating theatre immediately after this patient, this remark was well exemplified. A week previously, a piece of necrosed bone had been removed from her hard palate, and another piece which had been left behind was now perfectly loose, and was easily extracted.

ART. 134.—*On the Treatment of Fractures of the Lower Jaw.*

By H. O. THOMAS, M.R.C.S.

(*The Lancet*, January 19, 1867.)

Mr. Thomas requests those of his professional brethren who have the opportunity to test the usefulness of a plan he has practised the last four years in treating fractures of the lower jaw. It would best illustrate his treatment to describe one or two cases.

T. S., whilst engaged in a street row, received a blow on the lower jaw, on the 5th of April, 1866. Mr. Thomas examined the jaw the following morning, and found a fracture at the symphysis, with great mobility of the fracture. Having requested an assistant to steady the head, whilst another drew down and everted the lower lip, a fine drill was passed (at the point of reflexion of the mucous membrane) through the jaw, about a quarter of an inch on either side of the fracture, using an ordinary Archimedean drill, one sixteenth of an inch in size. He then passed through a silver wire, about the strength of that used by whip-makers. Having secured the ends in front of the jaw, they were then drawn tight and twisted until the fracture was firmly fixed. On the fifth day it became

a little slack, and was tightened by an extra twist, which required to be repeated every three or four days. In twenty days there was but slight motion at the fracture, and on the twenty-eighth it was quite firm and united. The patient from the first day expressed himself as able to use the jaw, and was urgent to be allowed to do so, which was not permitted.

Thomas B., a ship-carpenter, was struck by a piece of timber on the face, which threw him from the stage on which he worked, and he fell a depth of seventeen feet. On examining him an hour after the accident, there was found a fracture of the lower jaw on the right side, at the situation of the first and second molar teeth, which had been knocked out by the force of the blow. There was great mobility of the fractured part, more than Mr. Thomas recollects seeing before in fractures in that situation. The remaining teeth were firmly *in situ*. Having had the inside of the mouth well exposed by drawing aside the cheek, his assistant kept the third molar tooth steady with a piece of wood directed across the mouth from the left side whilst a hole was drilled across the tooth from its front to its inner surface, this tooth holding firm in the posterior portion of the fracture. A strong silver wire was then passed through the hole and brought forward, passing it between the bicuspid and canine teeth; the ends were then drawn tight and twisted, making the fracture firm. The wire was tightened every four days, and in three weeks there was moderate union; in four weeks it was sufficiently secure to allow the wire to be removed and the jaw used. This was the only treatment in the shape of mechanical appliance. An opiate was given every other night. This patient was also with difficulty restrained from using his jaw for masticating.

A case also came under Mr. Thomas's care four years ago, which occurred in a patient whilst engaged in "docking a ship," when he was struck on the jaw by a "capstan-bar," and a portion of the lower jaw, corresponding to the two middle incisor teeth, was detached and afterwards removed. The same treatment was followed as described in the first case, resulting in firm union in ten weeks.

Many cases of fractured jaw do well with comparatively simple treatment; and in cases where there has been great violence and much mobility of the fractured bones, the above practice of securing the body of the bone by means of wires in the way described, Mr. Thomas believes to be peculiarly advantageous, to the exclusion, with few exceptions, of all other apparatus, and applicable to almost any form of fracture of the body of the jaw.

The passage of a fine drill in the situation described in the above cases does not appear to have endangered the teeth, care being taken to strike, if possible, the interspaces of their roots. The body of the tooth which was drilled in the second case was attended with but little discomfort to the patient, and which the skill of the dentist will probably make good again.

ART. 135.—On Polypus of the Nose; more particularly in reference to its Treatment.

By THOMAS BRYANT, F. R. C. S., Assistant-Surgeon to Guy's Hospital.

(*The Lancet*, February 23, 1867.)

In this communication Mr. Bryant confines his observations entirely to the consideration of the simple mucous or gelatiniform polypus of the nasal passages, more particularly in reference to its treatment; for these cases, in their nature and progress, differ essentially from the fibrous or more solid forms of polypi, and in their treatment require very different measures. The practice he suggests and proves of value in the one kind will be found absolutely useless in the other; and the treatment which is called for in the firmer forms of growth is, as a rule, unnecessary in the simple or mucous variety. The diagnosis of the case, as a consequence, becomes of primary importance, for a correct treatment can only be carried out when the true nature of the disease is fairly appreciated.

Diagnosis of the mucous polypus.—These growths, Mr. Bryant says, are seldom recognized in the early period of their existence, for they are rarely

accompanied by any pain or other inconvenience beyond that of a slight excess of discharge, and this is generally looked upon as the result of "cold." This discharge will, however, probably be of a more serous character than is usually found to exist in an ordinary coryza. Should the nose be examined at this stage of the disease by the aid of a speculum and a reflector, or good sunlight, a pale, semi-transparent, succulent-looking outgrowth, not unlike a skinned white grape, or a fringe of many such grape-like bodies, will probably be seen hanging from the middle turbinated bone; for these polypi never grow from the nasal septum, but almost always from the bone to which he has alluded.

When the disease has progressed a stage beyond the one we have described, obstruction to the nasal passage will become a marked symptom, and this condition will vary in degree from a slight impediment to nasal respiration to its complete prohibition, according to the size or number of the polypoid growths. These polypi may grow so large or be so numerous as not only to completely fill the nostril or nostrils, but they often expand the nose, and are not unfrequently found to project externally through the nasal orifice, or plug the posterior nares and upper part of the pharynx.

The conditions for which this disease is most commonly mistaken have already been mentioned—viz., a crooked nasal septum and a thickening of the mucous membrane covering the lower turbinated bone. The knowledge, however, of the fact that these conditions may give rise to symptoms which have been mistaken for nasal polypus should be amply sufficient to induce the surgeon to make a careful local examination, when the error of the diagnosis will be at once discovered.

We will now proceed to the more immediate object of this communication—the treatment of the disease.

Treatment.—There has hitherto been but one kind of practice adopted for the treatment of these nasal polypi to which anything like success can be attributed, and that is their forcible abruption by means of instruments. Some surgeons employ a large pair of well-made forceps, which are carefully applied to the peduncles of the growths; whilst others prefer the "noose," or instrument by which a wire or cord is slipped over the body of the polypus, and its neck encircled. In both instances the growth is forcibly torn away from its attachments and relief afforded. As far as it goes this treatment is doubtless good, and may be employed whenever the polypus is of sufficient size to require interference; but all surgeons are aware of the unsatisfactory condition of patients who have been thus treated. It is true the chief portions of the disease for which the surgeon has been consulted may be removed, and a certain measure of relief afforded to the patients; but how long can this relief be promised? How soon will the same symptoms of the disease reappear, and a fresh operation be demanded, to be followed by the same relief, relapse, and surgical interference? We all know these cases may go on during the patient's life; that the period of immunity from the disease may vary in different patients, or even in the same patient at different periods; but we also know that, as a rule, a return will take place, and that sooner or later a repetition of surgical treatment will be called for.

It was this unsatisfactory state of matters which induced Mr. Bryant to look about for a different plan of treatment, and having now employed it for some years with invariable success, he can with considerable confidence recommend it for general adoption. He is disposed to regard it as a practical wrinkle of no mean value in the treatment of a hitherto very intractable affection, and it is with some little pleasure that he now brings it publicly before his professional brethren. He demonstrates the practice by the quotation of cases.

CASE 1.—The first case in which I was led to adopt the practice, in the year 1862, was in a young woman, E. C., aged thirty-two, who had been under my care at Guy's Hospital for several years. She had both nostrils affected with polypi, and for this she sought relief about every three months. Her nostrils were remarkably small, so that the operation for removal was one of difficulty. I had tried the injection of astringent lotions with no success, or with so little that it was not worth describing under that name, and gave them up. I then looked about for some powerful astrin-

gent that might be locally applied, and that would yet be innocuous to healthy mucous membrane, and found it in tannin. I ordered this to be used as a snuff, the patient to get some friend to blow it daily up the nostril through a quill. In one month this patient came to me well. Both nostrils were quite clear and free from all signs of disease. This patient was under my observation for three years afterwards and no return of the affection made its appearance.

CASE 2. The second case I propose to quote occurred in the person of a gentleman, aged fifty-five, who had polypoid growths in both nostrils for ten years. When he came under my care in July, 1864, both nostrils were completely plugged. On the left side the nose was filled even to its external orifice; on the right the growth occupied the posterior nares, and was not visible in front. I cleared the left nostril with tolerable ease by means of the instrument I generally employ, the "noose," taking away one of the largest polypi I ever removed. Some bleeding followed the operation, and as the polypus of the right side could not be brought forwards for manipulation its removal was postponed for one week. I thought, however, it would be well to try the effects of the tannin in this case, and prescribed it as in the last. The following week, when I saw this gentleman again, he came into my consulting-room with some spirit, saying that he was all right, that on the third day after the use of the snuff a polypus as large as the one I had removed from the left nostril had come away from the right, and that he was quite well. This gentleman was ordered to keep some of the snuff by him, and to use it on the slightest indications of obstruction to his nose. He has remained well ever since, and when I saw him early this year he was quite free from the disease.

CASE 3.—Sarah S., aged sixty, had been the subject of polypus in both nostrils for many years. She had been under my care for several years, and had been operated upon five times, the last operation having been performed three months previously. When I saw her on the 19th of February, 1866, her nose was full of polypi, even to the external orifice. Although an extreme case of the disease, I deemed it right, as an experiment, to try the effect of the "tannin" used as a snuff; and on March 12th (three weeks afterwards) the nose was quite clear. From the day of its use the growth began to wither and to slough off. By the 26th of March, on a careful examination of the nostrils, no signs of the disease could be made out. The mucous membrane also appeared healthy. I saw this patient on the 28th of May, and she was still well.

CASE 4.—Stephen B., aged thirty-one, came to me on the 24th of March, 1866, with nasal polypi completely occluding the right nostril. He had had the disease six or seven years, and had been operated upon many times, the last being about a year ago. Tannin was ordered as a snuff, and on the fourth day (March 29th) the growth had much diminished: it was evidently withering. He had then a slight passage. On the 5th of April the polypus had disappeared, and he could breathe freely through the nostril. On the 5th of May he was still well.

CASE 5.—James S., aged sixty, came under my care on the 10th of May, 1866. He had been the subject of nasal polypi in both nostrils for about five years, and been operated upon three times. Both nostrils were completely filled, no passage existing through either side. Tannin was ordered, and on the 20th of June he could blow through both nostrils, no signs of the disease existing. On the 10th of July he was quite well, the nose looking as healthy as it could be.

CASE 6.—George G., aged fifty-six, came under my care at Guy's Hospital on October 8th, 1866. He had had polypi of both nostrils for some years. He was operated upon in November, 1865, and again in April, 1866. When he came under my notice both nostrils were completely filled with small polypi. Tannin was ordered as a snuff, and in two weeks the nose was clear, no signs of disease existing. I saw him one month subsequently, when he was well.

The above examples appear to be conclusive as to the power of "tannin" to cause destruction of the gelatiniform polypus. When Mr. Bryant first employed the snuff, he thought it would be useful only in destroying small polypi, and in thus retarding the growth, if not preventing a recurrence, of the disease, after it had once been surgically removed; but subsequent experience has proved that it does much more—that it has the power of destroying even the largest growths, and of preventing the recurrence of a trouble and obstinate affection.

ART. 136.—*On the Treatment of Trichiasis and Distichiasis.*

By ULRICH HERGENSTEIN, Odessa.

(Arch. f. Ophthalm. xii. 1, 1866; Schmidt's Jahrbücher, 1867.)

Hergenstein is not satisfied with the methods hitherto devised for the removal of trichiasis, including that of Jasche-Arlt, although this has in his practice succeeded better than any other. He says that the attempt to remove the cilia has in the majority of cases no good result, and that it should rather be the surgeon's endeavor to *destroy entirely the hair follicles, and to leave at the same time the free margin of the eyelid uninjured.*

With this object Hergenstein draws a thread across the eyelid, under the muscular layer and close upon the outer surface of the cartilage, for the purpose of producing suppuration in the follicles of the cilia which are situated here. The thread is pulled from side to side every day, and is withdrawn after the lapse of about a week, as soon as some yellow spots of pus are visible.

The following are the details of the operation, which in the memoir are explained by a woodcut:—

The thread is first carried into the lid at the external canthus, being made to enter the free margin between the anterior and posterior edges. It is then carried directly upwards for a short distance, and the end withdrawn; it is next inserted again at the same orifice, and carried along the lid towards the internal canthus, and parallel to the free margin of the eyelid. About midway between the external and internal the end is withdrawn and again inserted at the same orifice, and is then carried on to the internal canthus, where it is made to bend down at a right angle, as on the outer side, and is finally brought out at the internal canthus at a point corresponding to the first point of entrance.

The ends of the thread are crossed and fastened by adhesive plaster under or over the other lid. During the operation the lid should be held stretched by an assistant. A bandage should be worn by the patient, and after the shedding of the eyelashes blue spectacles ought to be used, and the eye douche regularly applied.

ART. 137.—*A Remarkable Case of Spontaneous Luxation of the Crystalline Lens and its Capsule into the Anterior Chamber.*

By Dr. GOURIET, of Niort.

(Gazette des Hôpitaux, No. 43, 1867.)

M. Gouriet has reported the following singular case of displacement of the lens and its capsule:—

On January 25th, 1861, I was called in to treat M. C., a corn merchant, aged forty years, who was in the second stage of pulmonary consumption. I had for a long time noticed in this man the following peculiarity: there appeared to exist in the left eye a clear white speck which was visible at a distance of five or six paces, and gave to the countenance a sinister expression.

Having attended to the chief affection, I examined M. C.'s eye, and perceived that this bright white color had its seat in the crystalline lens. The tint was uniform, and could be compared to nothing so well as that of snow or very white linen. From the extent of the shadow cast by the iris, I judged that this cataract was solid, and I attributed it to a cretaceous metamorphosis of the crystalline and its appendages. The patient stated that he had lost the sight of this eye when about ten years of age, independently of any appreciable cause, either traumatic or internal. The pupil was round and contractile, the cornea was normal, and the eyeball presented nothing special as to size. The right eye was perfectly healthy.

I continued to treat M. C. for the lung affection, and on Feb. 11th the whiteness seemed to me to be of a greater extent than usual; in making a closer

examination, I perceived that the lens and its capsule had passed into the anterior chamber. Some few peripheral layers of the capsule were recognized as being quite rigid, and of the same white color as the rest of the capsule and the lens. The circular contour of the displaced body, and its regular form, confirmed the opinion that I had formed from the first as to the solidity of the cataract.

It is a singular fact that this luxation produced so little uneasiness, that when I mentioned it to my patient he was much surprised, and went directly to examine it in the glass.

Fearful lest the presence of the crystalline lens in the anterior chamber might produce serious inflammation, I proposed to extract it, but M. O. wished the operation to be deferred, and, contrary to my expectations, and to my great astonishment, not the slightest symptoms of inflammation were afterwards presented. The pulmonary disease, however, followed its course, and carried off my patient on May 30th, 1862. Up to the time of his death, the crystalline apparatus had not diminished the least in size, and no trace of inflammation or even of injection had been presented, either within the eye or upon the surface of the organ.

Dr. Gouret was led to publish the details of this case, as he thinks it an extraordinary fact that the lens and its capsule remained for more than fifteen months in the anterior chamber without causing any disturbance.

ART. 138.—*Gonorrhœal Ophthalmia.*

(*British Medical Journal*, March 16, 1867.)

M. Gosselin strongly recommends frequent injections of highly alcoholized water under the lids in cases of gonorrhœal ophthalmia.

ART. 139.—*When One Eye only is Blind, is it prudent to attempt to Restore Sight while the other remains perfect?*

By HAYNES WALTON, F. R. C. S., Surgeon to the Central London Ophthalmic Hospital, and to St. Mary's Hospital.

(*Medical Times and Gazette*, February 2, 1867.)

In discussing this subject Mr. Walton says:—It may be stated in general terms that a person who has lost an eye, besides being blind on one side, has but a limited field of vision for near objects beyond the centre of the face, and which angle is regulated by the degree of prominence of the nose; that the definition of sight which depends on binocular vision is totally lost; that the power of accurately estimating distance is lost, and in consequence of this mistakes are made in certain mechanical acts, as the pouring of a liquid from one vessel to another, although the vision is quickly rectified by touch. This defect may remain in degrees. Whether it is always entirely overcome by those who have lost an eye in infancy Mr. Walton does not know, for it has never occurred to him to ascertain. That with labor requiring minute sight there are more readily developed the many effects of impaired vision than when two are used, because the one organ cannot do the work of the two. These are points that some one-eyed people are loth to confess, and they cannot be blamed for their caution. It is, therefore, apparent that an individual is the better for two sound eyes, and that that measure is admissible which, while it restores sight, does no harm elsewhere.

Mr. Walton knows of several persons who are now blind in both eyes because they cannot make up their minds to have anything done. Every surgeon must have seen patients die rather than submit to any operation that would save life.

As the physical defects of the eyeball proper that need operation for the restoration of the function of sight are cataract, and the loss of the pupillary aperture, it is impossible for perfection to be restored. After the removal of

cataract, peculiar glasses are needed. In the formation of an artificial pupil, the aperture must be either at the margin of the iris when the quality of the sight is lessened, or in the centre when the lens is absent, and minute use of the eye must depend on cataract glasses. Unfortunately, an eye cannot be fitted with a cataract glass and brought up to a healthy state so as to match the other eye. The adjusting power is gone, and, for seeing at different distances, glasses of different foci are needed. Therefore arises this important consideration, on which the whole matter hinges: Will this kind of sight, which must be inferior to that of the other eye, and at times in marked degrees, be really of material service? It may be premised that, if a surgeon is to answer from his own knowledge and experience, a long time is required to gather facts and dates; and, to avoid errors, the patients should be watched for years. Mr. Walton speaks then from what he has seen, and says yes. He should be deterred from operating only by the probability of the eye being too much damaged to give that amount of sight which is known as useful sight, on which point much discrimination and a long familiarity with ophthalmic surgery are imperative. He has made lateral pupils, the crystalline lens being present, and central pupils, the lens being absent. He has selected those cases only in which he was as sure as he could be that the fundus of the eye was sound and the retina unimpaired, and the other conditions such as would insure the best amount of sight to be derived from such an operation. Mr. Walton places stress on this; for without it, without useful sight can be fairly expected, he would not operate. The false pupil he has invariably made either upwards or downwards, never inwards or outwards, on account of the double vision which would probably ensue. In every case decided benefit has followed. Side-blindness has been removed, and direct vision assisted; in those cases in which the lens was present there has been restoration of the ocular adjustment. Mr. Walton gives the following general results, avoiding minute details: "My last patient was operated on at the Central London Ophthalmic Hospital in September of this year. He was a soldier in a hussar regiment, and was acting as groom to a captain. When he was sent to me, I found that there was a dense central corneal opacity with prolapse of the pupil, almost the whole pupillary margin being adherent. I made an upward pupil by drawing out a bit of the iris and cutting it off. Mr. Wilkinson and Mr. Taylor, my colleagues, assisted me. Perfect success ensued. My patient was highly delighted at the addition to his vision and in the improvement in the focussing power of the eye. He was particularly proud of his distant sight, but he could, too, read quickly No. 9 of Jaeger's test type. There was not the slightest confusion in vision. His master, who examined him with care, wrote to thank me for the result, and inclosed a donation for the hospital.

"In every case in which I have made a central pupil after the loss of the lens, the patients have expressed their satisfaction and pleasure at the benefit they have received. I am certain, therefore, from the result of practice, of the advisability in certain cases of making a false pupil when one eye is sound. It would seem that confusion of vision does not, and is not likely to, ensue when there is perfect vision in the one eye. This agrees with the fact that in 'coloboma iridis' in one eye no confusion follows.

"I have a far more extended experience in operating when cataract affects only one eye. In the cases selected for my trial and observation, I was quite sure that the other eye was sound and not invaded by cataract.

"In nearly all, my patients were under adult age; a few were young adults, and two were past sixty years of age. I will allude to five of them specially, because they were in private, were persons of intelligence, and all were seen several times after they had left me as patients. One was a well-educated, clever publican, about thirty-two years of age. Cataract formed without any apparent cause. I operated by solution. No better result could have been obtained. The last time I saw him he assured me that he was as pleased with the new eye as ever. He said, 'The more I think of it, the more satisfied I am. I no longer run against people and things.'

"Another was a master builder, twenty-six years old. His cataract was idiopathic. He sought treatment because the blindness on the one side was 'the

plague of his life.' The result of the operation enabled him, as he expressed it, 'to get on better with his business.'

"The third patient, about forty years of age, was a clerk in a house of business. His disease was idiopathic. He was fully satisfied. He found the benefit he had been told he might expect.

"The fourth was a governess. She came to me several times to show herself after my professional attendance had ended. She was well pleased at what had been done.

"The last was a guard on a railway. He was thirty years of age. The eyeball was wounded by a splinter of wood, and cataract ensued. Since my operation he has been able to attend to his work satisfactorily. Before I operated he frequently blundered, and his defect was apparent to others."

As the evidence which Mr. Walton has collected establishes the propriety of endeavoring to restore an amount of sight less than the standard of health in the one eye, while the other is healthy, he advocates such practice when his opinion is sought. When a child with a wounded eye and an opaque lens is brought to him by his distracted parents, anxiously asking what can be done, he sets before them the state of the case, and recommends a removal of the cataract.

Mr. Walton adds: "After fifty years of age, when, as a rule, the operation for solution is no longer applicable, because the lens is harder, and the operation for extraction is more proper, circumstances are somewhat altered, and the opinion I give a patient is modified, and for this reason. The operation for solution being so very safe, I can with confidence promise success to my patient, if time be allowed me. Extraction is attended with risk of failure. Although I suspect, from all I can learn, that I get as good results from this operation as my neighbors, I know that I can get the success that I can command in solution. Then there is one more degree in the quality of restored sight in the extraction cases. The sight may be very good or very inferior, although the term success is applied to all. Added to this, when a person is old, he has pretty nearly done with the active affairs of life, and he can then get on tolerably with one eye. I endeavor to do my duty in explaining all this to a patient—adding, 'If nothing untoward happen, you will be the better for the operation; if it do, you will be none the worse as regards the other eye'—and leave him to determine between the unpleasantness of the operating process and chance of failure, and the probability of success and the addition of a certain amount of sight."

ART. 140.—*Acute Glossitis.*

By HENRY GRAY CROLY,

(*The Medical Press and Circular*, February 6, 1867.)

Dr. Croly brought the following cases under the notice of the Surgical Society of Ireland, as illustrative of glossitis and its treatment:—

Acute Idiopathic Glossitis, ending in Suppuration, and followed by Abscess at the back of the Pharynx; Result, Recovery.

CASE 1.—J. M., aged nineteen years, a farm laborer, of temperate habits and robust frame, bathed in the sea at Bray on the 17th of August, 1856; did not dry himself sufficiently; got a wetting on his way home; the following day he went to work as usual; reaped corn and worked very hard; on his return home in the evening he was attacked with severe shivering, felt soreness in his throat, and had slight difficulty of swallowing; he tried to work on the next day, but failed; felt his tongue swollen. I was requested to visit him on the 20th instant, by his father, who stated that his son had lumps in his throat, and was choking. On arriving at his house I found him sitting up at the fire, with an anxious and flushed countenance; saliva dribbling from his mouth; speech thick and indistinct; tongue swollen and tender to the touch; mucous membrane covering the sublingual space infiltrated, and raised on a level with the top of the teeth; considerable hardness under the chin; pulse 120, and full; patient has not slept since the commencement of the attack. I immediately

punctured with a sharp-pointed bistoury the sublingual space, which was followed by a free discharge of blood and serum; prescribed a mixture containing tartar emetic in nauseating doses, administered a brisk purgative, and ordered half a dozen leeches to be applied under the chin. I recommended incisions into the tongue, which were objected to.

August 21st. Tongue swollen and indented by the teeth. It was now evident that matter had formed in the cellular space underneath the tongue, and after considerable persuasion I was permitted to make an incision under the chin, which I accordingly did, passing the scalpel well up in the *median line*, which gave exit to a large quantity of blood and pus.

22d. Pus flowing freely through the openings at each side of the frænum lingue, where I made the punctures, and on pressing the tongue on the dorsum pus escaped in large quantity through the incision beneath the chin. The treatment now consisted in the application of linseed poultices, quinine mixture, and beef-tea. In four days the patient complained of soreness in his throat and difficulty of swallowing. On examination I observed a large abscess at the back of the pharynx, which I opened with a bistoury, guarded with lint nearly to the point. Some very fetid pus was thus evacuated, to the immediate relief of the patient, who steadily improved, and was very soon in the enjoyment of his usual health.

Acute Idiopathic Glossitis, involving the Left Half of the Organ only, ending in Resolution.

CASE 2.—J. K., aged thirty-eight years, of temperate habits, but an inveterate smoker, by occupation a warder in the Spike Island Government Convict Prison, of which I had charge; had not been exposed to wet or cold, lately; could not assign any reason for the attack. This man presented himself at the prescribing-room attached to the hospital on the morning of the 20th of November, 1860, complaining of sore-throat, accompanied with pain and difficulty in swallowing; he was much disturbed during the night, slept badly, and started up frightened by unpleasant dreams; his speech was thicker than usual, and his expression presented much anxiety. I made a careful examination of his throat, but found the tonsils, uvula, and palatine arches free from even slight efflorescence; he winced when I made pressure with my finger on the *base* of his tongue, particularly when I pressed on the *left side* of the raphe. I ordered the man to be admitted at once into the hospital and prescribed a purgative.

November 21st. Patient has not slept; his bowels were freely acted on by the medicine; there is a slight swelling of the left side of the tongue *near its base*; skin hot and dry. A diaphoretic mixture prescribed.

22d. Patient's speech is very *thick*; he had a bad night; he says he has *acute pain* in his tongue far back at the left side; countenance not very anxious; he coughs occasionally, and then discharges from his mouth a quantity of viscid ropy mucus; there is a slight swelling under the angle of the left jaw, not so far back as the tonsil, which is very tender to the touch; the tongue is now considerably elevated towards the roof of the mouth at the *left side*, the right side seems natural; the edges of the organ are red, and the centre covered with a white exudation; the left side of the *apex* has a thick rounded appearance, and contrasts remarkably with the opposite part; the sublingual space is slightly elevated, and the crest running up towards the under surface of the apex of the tongue is visible, but not very distinctly; the patient says he had several severe shaking fits during the night; the saliva dribbles constantly from his mouth. The tongue having been well dried, I applied six leeches on its anterior and left side (a thread was previously passed through the end of each leech); they filled rapidly and fell off; the bleeding was encouraged by gargling with warm water.

23d. Tongue much less swollen, but still considerably enlarged; the tenderness and swelling continue under the left angle of the jaw; three leeches were applied to the painful part; a soft poultice of linseed-meal was applied when the leeches fell off.

24th. Patient slept well; countenance natural; he was discharged cured in a few days.

Acute Idiopathic Glossitis engaging the entire Tongue, terminating in Resolution, in a Boy Thirteen Years Old.

Case reported by Mr. W. L. Wheeler, Purser-Student (now Dr. Wheeler).

CASE 3.—A. L., a delicate-looking boy, aged thirteen, was admitted into the Children's Ward of the City of Dublin Hospital, on the 12th of November, 1864, under Mr. Croly's care, suffering from inflammation of the tongue. His mother cannot assign any reason for the attack. On admission his countenance was anxious; his tongue much enlarged and protruded from the mouth; his respiration was difficult and he could scarcely swallow. Mr. Croly made a free incision with a sharp-pointed bistoury at each side of the raphe, from which blood and serum flowed profusely. The wounds gaped widely, and as the hemorrhage continued very smartly, the wounds were plugged with lint; the plugs were removed in a few hours; there was no further bleeding; the little patient was greatly relieved by the prompt treatment.

November 18th. Wounds looked like mere scratches; the boy slept well; took wine and beef-tea; his tongue was entirely in his mouth.

14th. The incisions gaped a little; patient much improved in strength.

18th. Tongue quite natural; discharged cured.

Acute Idiopathic Glossitis affecting the Left Half of the Tongue; Result, Resolution.

Reported by Mr. (now Dr.) Nugent Wade, Purser-Student.

CASE 4.—J. C., aged thirty years, cab driver, was admitted into the City of Dublin Hospital, September 5th, 1865, under the care of Mr. Croley, suffering from inflammation of the tongue.

Previous History.—Has always been healthy and temperate; was not exposed to wet or cold before the present attack; never took mercury. About a fortnight before admission to hospital he felt a stinging pain under his left eye; three days subsequently he noticed a swelling under his left jaw-bone (near the angle); he slept badly; his tongue became swollen and painful at the left side; the swelling increased rapidly in one night, and prevented him taking any breakfast on the following morning.

State on admission to hospital.—Left half of tongue very much swollen, protruded from mouth, and indented on left side by the teeth; anterior surface of the organ covered with white tenacious mucus; left submaxillary gland considerably enlarged, very hard and extremely painful to the touch; saliva flows freely from the mouth; deglutition, articulation, and respiration impaired; pulse full and frequent; fetid breath; teeth loose at left side. Mr. Croley ordered four leeches to be applied to the inflamed submaxillary gland; hot poultices were kept constantly on, and a gargle of alum and chlorate of potash was prescribed to be used frequently; a purgative was also administered. The leeches bled copiously, and required matrico leaves to arrest the hemorrhage. The tongue regained its normal appearance, and the patient in a few days was discharged cured.

Acute Idiopathic Glossitis involving the entire Organ, but more marked at the right side, ending in Resolution.

I am indebted to Dr. Nugent Wade for the notes of this case also:—

CASE 5.—Christopher Pallas, aged fifteen years, a strong, healthy-looking boy, by occupation a messenger, was admitted into the City of Dublin Hospital on Thursday, September 7th, 1865, under the care of Mr. Croley, suffering from inflammation of the tongue.

This boy says he caught cold by sleeping out all night on a car (about a week before his admission to hospital); on the morning following he felt his throat very sore; four days subsequently he suffered from severe pain in both ears (worse in the right ear than left); his tongue became painful and swollen, and he swallowed with difficulty; on admission his tongue filled the cavity of the mouth completely; it projected slightly, and was covered with a white fur. The right half is more enlarged than the left; fetid saliva dribbles from the mouth; submaxillary gland hard and painful to the touch; the patient can with difficulty swallow even fluids; articulation imperfect, speech thick.

Mr. Croley made two parallel incisions in the tongue, one at either side of the raphe. A large quantity of blood, pus, and serum escaped. The patient was directed to wash

his mouth with tepid water; all hemorrhage ceased very soon; a purgative was administered, and an antimonial mixture to subdue the inflammatory symptoms.

The patient was discharged cured in a few days.

Acute Idiopathic Glossitis, followed by Abscess under the Angle of the Jaw.

CASE 6.—M. B., a servant maid, was admitted under my care in the City of Dublin Hospital on the 1st of May, 1866, suffering from acute inflammation of the tongue and sublingual glands. She was sent in to me by Dr. Capman, Medical Officer to the Donnybrook Dispensary District.

History.—She caught cold from wet feet; had shivering fits, felt soreness under her tongue; her voice soon became affected, and the tongue swollen.

The catamenia were irregular of late, and she states that at the period she ought to menstruate her tongue swells; deglutition caused much annoyance, and she became hot and sick. On admission her tongue was observed to be swollen, and her expression was indicative of the disease; but the mucous covering of the sublingual region seemed to be more affected than the substance of the tongue itself; her voice was indistinct and speech *thick*; she could not bear a pressure on the tongue or under the chin.

I made punctures with a sharp-pointed bistoury at each side of the frænum linguae, and also incised the tongue at each side of the raphe; the hemorrhage was free, and the patient felt instantaneous relief; a purgative was prescribed, and hot poultices beneath the chin; she was also directed to clean her mouth; warm bath. She remained three weeks in hospital, and was then discharged well. The tongue was restored to its natural size. After her discharge from hospital she got inflammation in the left angle of the jaw; five leeches were applied; an abscess formed subsequently in that region, and was opened by Dr. Chapman.

Inflammation of the Tongue from Erysipelas, ending in Resolution.

CASE 7.—H. S., aged sixty-eight years, was admitted into the City of Dublin Hospital on the 8d of November, 1866, with a large epulis involving almost the entire right half of the lower jaw. On the 6th of November I removed the half of the maxilla from the articulation. On the 18th instant the patient was attacked with a mild form of erysipelas of the face. On the 15th instant he complained of his tongue being sore; the organ swelled rapidly, and at my night visit was enormously enlarged and protruded through the wound; dyspnoea was urgent, and swallowing very difficult. I made free incisions of the anterior surface of the tongue, at the right side of the raphe (the left side was not much infiltrated and did not require incisions). The relief was almost immediate.

ART. 141.—*On a Case of Aerial Goître.*

By Dr. GAYET.

(*Mémoires de la Société des Sciences Médicales de Lyon.*)

In October, 1867, a man, whose occupation was that of a joiner, came under the care of Dr. Gayet for chronic irido-capsulitis. Whilst he was under treatment Dr. Gayet noticed by chance that there existed at the lower part of the front of the neck a swelling, which from its nature was remarkable and worthy of attention.

The patient first noticed that there was a tumor in the neck nine months before; it was then seated in its present locality; was at first very small, and then gradually increased until it presented itself as a marked deformity.

Dr. Gayet states, that at the first glance the swelling might have been taken for a median cystic goître, but a short examination prevented such an opinion from being held for any length of time. The tumor appeared to be influenced, up to a certain point, by the state of tension of the sterno-mastoid muscles, under the inner margins of which it passed. Whilst the muscle was in action, the tumor became prominent, hard, and elongated from below upwards; in relaxation of the muscle, on the other hand, it became soft and diminished in size. It was also influenced very much by the respiratory movements; it was swollen and distended by violent and prolonged respiration, and during a deep inspiration it seemed to disappear. To the touch the swelling felt very soft, and it was

almost entirely reducible, but the finger could still make out under the skin the existence of a sac with moderately thick walls.

These characters alone, states Dr. Gayet, pointed out the nature of the swelling, and it was, without doubt, one of those formations described by Frank, Bach, and others, under the names of aerial goitre, tracheocele, &c., a tumor formed of a sac, communicating with the trachea by an orifice more or less extensive, and which, according to the state of tension of the respiratory passages, was empty, or again distended with air.

Two questions in cases of this kind naturally present themselves. What parts form the wall of the cyst? At what part of the trachea does the communication exist?

Dr. Gayet thinks that from the thinness of the walls of the cyst in his case, no part of the thyroid gland could have been involved; there was nothing to authorize the supposition that in puncturing the cyst in the middle line, any other tissues save skin and fascia would have been traversed by the instrument. The isthmus of the thyroid gland was, Dr. Gayet thought, either above or below the pedicle which passed from the swelling to the trachea.

With regard to the second question, the true position of the communicating orifice was probably below the cricoid cartilage. Dr. Gayet could not feel it, but it was by careful pressure on the sac at this point alone, after the goitre had been reduced, that the reappearance of the swelling would for a time be prevented, even with very forcible efforts on the part of the patient.

In this case, as in all others previously observed, the tumor was not sonorous on percussion, and no special bruit could be heard by the stethoscope.

Nothing was learnt from this case that could throw any light upon the mode of origin of such formations.

Three statements on this point have been put forward, but they have been derived more from hypothesis than from observation.

1. Laceration of the mucous membrane, followed by quick expulsion of air into the cellular tissue of the neck. This would produce emphysema rather than a true tracheocele.
2. Laceration of the mucous membrane, followed only by a succession of limited expulsions of air, thus permitting the gradual formation of a sac.
3. Hernia of the tracheal mucous membrane between two of the cartilaginous rings, whence the formation of a cavity having the inner surface of its walls supplied with epithelium.

No post-mortem examination has yet been made in a case of this kind.

It is an important fact, that this form of goitre is generally produced under the influence of repeated and sustained bodily exertions. Heavy occupations and singing expose individuals to the affection. According to Larry it has been observed in those Mussulmans who from the summits of the minarets call out the hours.

Surgical interference would be worse than the disease. The most the surgeon can do is to recommend an apparatus designed so as to enclose the swelling, and to prevent further expansion of the cyst.

ART. 142.—*Fatty Tumor of the Neck; Operation.*

Under the care of Mr. HAYNES WALTON, Surgeon to St. Mary's Hospital, and to the Central London Ophthalmic Hospital.

(*The Medical Press and Circular*, January 23, 1867.)

The points of practical interest to surgeons in this case are two—the diagnosis and the manner of operating.

The tumor was situated at the side of the neck, just above the clavicle, between the mastoid muscle and the trapezius. It was large enough readily to attract notice.

The patient was twenty-five years old. The history merely told that a couple of years ago a swelling was noticed in the neck, and about the same time hard

lumps appeared under the arm on that side. The tumor grew, while the lumps disappeared.

There had been difficulty in diagnosis, for the woman had been to two public institutions, and at both it was supposed that the tumor was made up only of enlarged cervical glands. Mr. Haynes Walton decided otherwise. He considered it to be a fatty tumor, and determined to remove it.

When the patient was brought to the operating theatre, Mr. Walton drew the attention of the spectators to the physical characters of the disease, and said: "This is a case in which I can well understand that there might be a difference of opinion as to what the tumor was made up of. From a hasty examination, no doubt most persons would suppose that they were touching merely lymphatic glands, and most certainly I should come to the same conclusion if I were to examine only a part of the mass. But, after I have scrutinized every portion of it, felt its general looseness, ascertained that the lumps are softer than glands would be, and taken into consideration that the tumor is increasing from below upwards, I say that it is fatty." Mr. Walton ascertained the exact position of the jugular vein so as to avoid wounding it, made an incision in the long axis of the tumor, and cut through the skin. His diagnosis was accurate. Out gushed a lobule of loose yellow fat, a part of a true fatty tumor or lipoma. As he was dissecting in a very dangerous region he proceeded slowly, and laid open the capsule of the tumor to its entire extent.

As the capsule was adherent, dissection was required over the whole surface. None of it could be torn away, as may commonly be done. During the last stroke or two of the knife, two arteries were divided, and quickly secured by ligatures.

These remarks were made after the operation: "Of course, gentlemen, I am gratified in being able to verify my diagnosis. I proceeded very slowly at first until I was able to ascertain the character of the tumor, because had I not seen fat I should have desisted, but as soon as the yellow lobule shot out, I went on quicker and with more confidence. Because everything has gone on smoothly to-day, you must not suppose that the operation was a very easy one, or that it was unattended with risk. I was dissecting deeply among very intricate parts, surrounded by vessels of large magnitude and of importance, for the ramifications of the tumor were many and deep. I wish to tell you the secret of my success, for if you know this you may act as well as I have done, but if you are ignorant of it you may get into great difficulty in attempting a like thing. I so conducted my dissection that every stroke of the knife told against the tumor; in fact, the edge of the instrument was always toward its axis, and not away from it, so that I never divided anything I did not see, and I could not divide anything that did not come into the tumor or go out of it, so that if I had had bloodvessels in the closest proximity to the tumor, so long as they did not penetrate it, they were safe. If the point of the instrument had been once away from the surface of the tumor and out of sight, I might have divided anything. You say that two small vessels were divided at the very last stroke of my knife. These were the proper vessels of the tumor—the vessels of nutrition—and as they were cut superficially they were very quickly secured by the forceps. By following this important rule, I have removed a large tumor from among intricate relations, without ever seeing any muscular tissue, or dividing any bloodvessels unconnected with the morbid growth."

The wound was brought together by sutures, and a week after the operation, it was nearly quite healed.

ART. 143.—*Iridectomy in France.*

(*The Lancet*, June 1, 1867.)

M. Fano has published in *L'Union Médicale* a series of cases of glaucoma (April 11th and May 9th, 1867), and concludes therefrom: 1. That the excision of a fragment of the iris cannot be looked upon as a measure calculated to effect a cure of chronic glaucoma. The operation is a mere palliative, and does

not lead to a radical cure. 2. That iridectomy retards the progress of the disease when the latter is not far advanced. 3. That favorable results are to be expected when the disease is not of old standing. 4. And that, although iridectomy only acts as a palliative, the operation may be had recourse to, in the absence of any other means of restoring or improving sight, when the eye is affected with glaucoma.

ART. 144.—Large Cyst of the Thyroid Gland successfully Treated by Injections of Iodine.

Under the care of Mr. SAVORY.

(*Medical Times and Gazette*, February 23, 1867.)

Cysts in the substance of the thyroid gland occasionally grow to a very great size. In this case they were so large as to increase the girth of the neck from about fourteen to eighteen and a half inches. The common methods for the radical cure of such cysts are, (1) the injection of iodine into their cavity, (2) the introduction of a seton, and (3) the laying them freely open, so that they may be obliterated by contraction and granulation. The idea of dissecting them out cannot be entertained. The injection of iodine into their interior is probably the most certain and least dangerous plan. It answers very well in cases in which the cysts are of comparatively small size. But there is preserved in the museum of St. Bartholomew's Hospital (s. xxii. 16) a large cyst of the thyroid gland, which, during treatment by iodine injections, became intensely inflamed, and burst into the pharynx immediately above the orifice of the larynx. Death was caused by the escape of its contents into the trachea. Mr. Coote, in Holmes's "System of Surgery," vol. iv. p. 707, says: "I have succeeded in producing the complete obliteration of a thyroid cyst by means of the injection of iodine in the usual proportions of one drachm of the tincture to five of water. But whoever undertakes such an operation should bear in mind the numerous complications that await him, as well as the fact that in some instances the hemorrhage has been so severe as to demand the application of a ligature to the common carotid." Mr. Paget lately mentioned the following case: A lady, who had an enormous cystic goitre, thinking the door of the room into which she had occasion to go was open, walked on in the dark, and struck the projecting front of her neck violently against the flat panel of the door, which proved to be shut. She was much alarmed at the accident, but was well enough to go out to dinner on the same evening. She went to bed conscious only of having bruised herself severely. On waking the next morning she was very much surprised to find that the swelling in her neck had almost wholly disappeared, so that the skin was left loose and hanging in folds over her sternum. It was evident that the sudden blow had ruptured the cyst, and that the serous contents had been extravasated into the cellular tissue of the neck. Some time afterwards no return of the swelling had taken place, and she considered herself thus accidentally cured. Another patient that Mr. Paget knew of, and who had a large cyst in his thyroid, was cured for some time, if not permanently (of this Mr. Paget could not speak certainly), by the hug of a garotter. It is to be regretted that one so exceptionally favored has not had the gratitude to come forward and acknowledge his obligations to one of a class who are universally reviled.

H. L., aged twenty, from Northamptonshire, was admitted into Lucas Ward, under the care of Mr. Savory, on October 20, with great enlargement of the thyroid gland. She said that this had begun eleven years ago, and that it was at first confined to the right side of the neck. From that time it had gradually and painlessly increased. It had been variously treated with the external application of iodine and some medicines internally. On examination, it was seen that the neck was very much enlarged by two cysts, one in either lobe of the thyroid gland, and separated by a deep sulcus corresponding with the isthmus. It was impossible at this time to say whether there was any solid enlargement of the gland. A few days after her admission the cyst on the left side (the

smaller) was tapped, and, after it had been entirely emptied by the removal of a quantity of serum of the color of dark brown sherry, was injected with a mixture of one part of tincture of iodine and two parts of water. The injection was allowed to remain. This proceeding was followed by some, but an inconsiderable, heat of skin and acceleration of the pulse, and by tenderness over the cyst; but there was no shivering or other formidable symptom. The cyst partially refilled, and then gradually subsided till scarcely a trace of it could be felt. A few days later the cyst in the right lobe was tapped, and injected with three drachms of a mixture of equal parts of tincture of iodine and water. On emptying it, however, previous to the injection, it was discovered that there was a considerable solid enlargement of the gland beneath. No constitutional disturbance followed the injection; but in a few days the cyst had refilled. It was therefore again tapped, and injected with a similar solution. Its cavity now suppurated, and was opened after the fashion of an ordinary abscess, into which, indeed, it had been converted. The abscess cavity by degrees contracted, and the patient was at length discharged, with her cysts, to all appearance, obliterated. The solid enlargement of the right lobe of the gland, which, however, constituted but a very small proportion of the original swelling, still remained; and for this she was to be an out-patient.

ART. 145.—*Case of Diphtheria saved by Tracheotomy.*

By GEORGE BUCHANAN, A. M., M. D., Glasgow.

(*British Medical Journal*, March 2, 1867.)

The following case is a good illustration of the advantage of tracheotomy as a means of saving life in diphtheria :—

“Catherine Walker, aged seven years, began to complain of hoarseness, with a slight but rough cough, on Wednesday, January 9th, 1867. These symptoms increased in severity till Friday, the 11th, when Dr. Tyndal was called, who prescribed a blister to the throat, and administered two grains of iodide of potassium and two grains of chloride of potash every two hours. He found a white patch of diphtheric deposit on each tonsil. In two days the symptoms were relieved, a bit of false membrane thrown off, and the tonsils had a more natural appearance. On the 16th, a fresh accession of the disease seems to have occurred, for the breathing became oppressed; and though there was no appearance of deposit on the tonsil, it was evident that effusion was taking place in the larynx, as the stridulous noise on inspiration was quite evident. The same remedies were pushed for two days without effect; for, on the morning of Friday, the 18th, the distress in breathing was great.

“I was called by Dr. Tindal on that day, and found the child evidently in great danger. The stridor on inspiration was extreme; and the obstruction in the larynx most evident, by the drawing in of the abdominal walls and intercostal spaces at each act of breathing. The pulse was weak and rapid, and the skin already cold and pale. I was quite satisfied that death was imminent, if tracheotomy did not afford a chance of safety. Having got the parents' advice, I operated; the patient being put under the influence of chloroform, which is a great relief both to the surgeon and patient. As soon as the trachea was opened, the violent respiratory efforts threw out some shreds of false membrane, and with the dressing-forceps I pulled away much more; some of the pieces being half a square inch in size. Fortunately, most of the effused membrane was situated above the opening in the trachea. As soon as the double tube was lodged in the trachea, the breathing became free, the color was restored to the lips and cheeks, and soon the pulse and heat became natural.

“Dr. Tindal and I continued to visit the little patient daily; but during the first three days she was indebted for safety and comfort to the continuous attendance of a number of my senior students, who kindly volunteered their services; so that at no time during day or night was she without a skilled assistant at her bedside. It is a most important part of the after-treatment to keep the tube clear of any secretion which may be coughed up into it. Fortunately,

the disease seemed to be checked; for the secretion, instead of becoming viscid, assumed a more fluid consistence, so that it could be readily removed with a feather. The iodide of potassium was continued for two days. The patient was nourished with beef-tea, and after the second day with more solid food. Steam was introduced within the bed-curtains by a tube attached to the spout of a kettle which was kept boiling on the fire; and it was noticed that, when any slight difficulty of breathing through the tube occurred, an increase in the amount of steam soon relieved it. The tube was removed on the fourth day; when the respiration was found to be quite free, all symptoms of the disease having passed off. She continued to improve daily after the removal of the tube, breathing, eating, and sleeping in a natural way."

ART. 146.—*A Case of Traumatic Aneurism of the Left Vertebral Artery.*

By M. A. LUCKE.

(*Archiv für Klinische Chirurgie*, 8 Bd. i. 4.)

The patient was a young man, aged twenty-three years, who during convalescence from smallpox was stabbed by a knife over the left mastoid process. The bleeding was arrested by compression and the application of amadou, and the wound soon healed. About three weeks after the accident, the man noticed behind his ear a small pulsating tumor, which was situated below the cicatrix, and increased gradually in size. About the same time he was disturbed by buzzing in the ears, and giddiness.

He was admitted under Lucke's care on July 27, 1865, seven weeks after the accident. On examination, there was found behind the left ear an hemispherical tumor of the size of the fist; the skin over it was unaltered, except at its central part, where there existed a thin fibrous cicatrix. The tumor presented manifest pulsations. By exploring the tumor, it was made out that it extended deeply into the space between the mastoid and styloid processes, and stretched in the other direction to the right half of the occipital bone.

The pulsations, the bruit de souffle, the fluctuation at the level of the cicatrix, left no room for doubt as to the nature of the tumor. It was clearly an aneurism. It remained to discover what was the artery involved. The seat of the cicatrix directed the surgeon's thoughts to an aneurism of the occipital, or of the posterior auricular arteries. On the other hand, as neither the direction of the original wound, nor the form of the instrument, could be learnt, it might be diagnosed as an aneurism either of the vertebral artery or of the external carotid. The tumor was diminished in size by compressing the left common carotid, and its pulsations were very much reduced, although not entirely. That the greater part of the blood was supplied to the tumor by the carotid, seemed a rational conclusion. As continued pressure did not lessen materially the size of the swelling, the hope of treating it by this means was abandoned.

On August 4th, the left common carotid artery was tied; but the operation had not the smallest influence, either upon the pulsations or upon the size of the tumor. It was concluded from this result that the swelling was not in connection with the carotid artery, but with the vertebral. The ulterior symptoms confirmed this diagnosis; the aneurism soon increased in size. The complementary circulation established by the vertebral artery after ligature of the carotid, seemed to increase the activity of the growth of the tumor. On the third day after the operation the cicatrix became very thin, and rupture was imminent. Treatment by injection of perchloride of iron was then resorted to. On August 7th, seven drops were injected. An hour later, it was evident, from the density of the tumor, that a coagulum had formed. Five drops of a solution of perchloride of iron were then injected once or twice every day. The walls of the tumor were thickened, the pulsations became more feeble, but on the fifth day, the skin about the cicatrix sloughed. The ligature came away from the carotid artery on the eleventh day after the operation.

On August 17th, whilst dressing was being applied to the tumor, the slough

separated, and free hemorrhage followed, but this was arrested by direct compression with charpie saturated with perchloride of iron.

M. Lucke next decided upon opening the sac. The operation was a very difficult one, incision of the tumor was followed by a considerable amount of hemorrhage; the orifice of the aneurism could not be found; the finger, when introduced into the pouch, could be moved in a cavity situated between the atlas and the occipital bone, which was carious; the vertebral could not under these circumstances be tied, the hemorrhage was with great difficulty arrested by plugging the sac with charpie saturated with perchloride of iron, and then bringing together the margins of the wound with a suture.

After the operation, the patient remained unconscious for nearly half an hour; he was in a condition of extreme anæmia, and was not able to speak; but he gradually regained strength, and the following day could utter some words. On the 22d, however, paralysis, both of motion and of sensation, attacked the right side of the body. On the 23d, the plug was removed from the wound; the aneurismal cavity was found to be already diminished in extent, its walls were covered with granulations, and suppuration had been established. On the evening of the 28th, the patient became comatose, and died on the following night.

At the post-mortem examination it was discovered that the left vertebral artery had been cut between the atlas and the occipital bone. The openings of the artery could not be found; it could be followed as far as the axis, but there it was lost in a mass of connective tissue. The dura-mater was much thickened at the part which corresponded to the wound, and the pia-mater adhered to the cord, in the cord itself no alteration was found. The distal end of the artery was obliterated along a short portion of its course; the arteries at the base of the brain were in other respects healthy. On the surface of the left cerebral hemisphere, the pia-mater was, over a portion of its extent, thickened and adherent to the brain. The cerebral surface from the 2d to the 5th convolutions on the left side was of grayish-yellow color, anæmic and softened; this softening did not extend beyond the connective tissue of the convolutions involved. The brain was anæmic, but in all other respects had a normal appearance.

Among the peculiarities of this case, M. Lucke dwells upon the difficulties of the diagnosis; it is hard to conceive of a knife being able to pass between the atlas and the occipital bone, and failing to penetrate into the cord. But what contributed particularly to the obscurity of the diagnosis was the fact that the size of the sac was diminished by pressure upon the carotid artery; it is probable that the vertebral artery was pressed upon at the same time.

M. Lucke states that ligature of the vertebral artery seemed in this case to be an almost impracticable operation, not only on account of the difficulties attending its performance, but of the numerous anastomoses of the vertebral artery, which were developed after the carotid had been tied.

In conclusion, a very important point in this case is the connection of hemiplegia with changes in the cortical substance of the brain, and with disturbance of cerebral nutrition following ligature of the common carotid, and arrest of the circulation in the vertebral artery. It remains doubtful whether the softening was caused by the anæmia alone or by arterial obstruction.

ART. 147.—*On the Present Methods of Diagnosis in Aural Surgery.*

By J. HINTON, Aural Surgeon to Guy's Hospital.

(*Medical Press and Circular*, May 15, 1867.)

In this paper, which was read before the Hunterian Society, the author first referred to the relations existing between diseases of the ear and other general or local morbid conditions. Respecting these, he remarked that his experience had led him to believe that such relations were remarkably few, diseases of the ear being, in this respect, strikingly unlike those of the eye. Scrofula, gout, and, in a less marked degree, rheumatism, acquired and hereditary syphilis, were enumerated as general causes of ear disease; eczema and psoriasis affected the tympanum, sometimes through the meatus externus. But he had not hitherto

discovered any connection between affections of the nervous system of the ear and degenerative changes of the kidney and other internal organs. There is, however, a peculiar diathesis, with which what we must be still content (or discontent) to call "nervous deafness" coexists; this is indicated by a peculiar aspect of the countenance, and often by a certain smoothness of the skin. The health may be in all ascertainable respects perfect.

In respect to the means of diagnosis, the author described the means of examining the meatus and membrane, giving the preference to the simple reflection of the daylight by a concave mirror, and the use of the small conical silver or vulcanite speculum. Among the tests for the hearing, special importance was attached to the use of the tuning-fork, and some important modes of employing it were referred to. It does not, when placed upon the head, by itself afford a sufficient test of the sensibility of the nerve, since conditions of the tympanum have a great influence on the degree to which it is heard. If, however, it be heard worse on the deaf side, presumably the nerve is implicated; if the disease be tympanic only, the tuning-fork is better heard, very often at least, if not invariably. The reason of this latter fact is that if vibrations existing in the bones of the head are prevented from escaping through the meatus, they are reflected on the labyrinth and heard more loudly. Thus, if while a tuning-fork vibrates on the head, the meatus be closed, the sound is intensified, and the same result ensues when it is virtually closed by obstruction to the passage of vibrations through the tympanum. Or, if again this intensification of the sound on closing the meatus be absent, obstructive disease in the tympanum may, with certain qualifications, be inferred. Further still, if a *diminution* of the sound be thus produced, it affords, in the author's opinion, the strongest presumption that the labyrinth is the seat of disease; and especially that there is a condition of excessive tension, a state analogous to glaucoma of the eye. In many of the instances of "nervous deafness" above referred to, this inverted reaction on closing the meatus exists. By means of a double otoscope, also, the relative freedom of the passage of vibrations through the tympanum on each side may be directly tested.

Lastly, the effects of removing the atmospheric pressure from the meatus, by means of the "pneumatic speculum," and those of passing air into the tympanum, were briefly described.

ART. 148.—*Enlarged Scrofulous Glands Displacing the Aorta and Innominate Arteries.*

Under the care of Mr. POLLOCK.

(*Medical Press and Circular*, May 22, 1867.)

The following case is reported by Mr. E. C. Ring, Surgical Registrar of St. George's Hospital:—

Wm. J., aged 18, was admitted on October 8th, 1866, with a large mass of scrofulous glands in the neck. He stated that it made its first appearance fifteen months previously as a small lump near the larynx. There was a large globular mass of glands in the left side of the neck, extending upwards as far as the mastoid portion of the temporal bone, backwards to the edge of the trapezius, and forwards to the lobe of the ear and angle of the lower jaw. From this it extended downwards to within an inch of the tendinous origin of the sterno-mastoid overlapping the muscle above, but lying behind it below. It extended deeply into the neck, pushed the pharynx and œsophagus forwards, and the trachea to the right. Its lower border was irregular, and ran from the margin of the trapezius, about three inches from the mastoid bone, obliquely downwards and forwards, to terminate at the tendon of the sterno-mastoid. The boy was pale and thin; he was ordered syrup of the iodide of iron, and cod-liver oil twice a day, with ordinary diet and a pint of porter; and the surface of the neck was to be touched with the actual cautery, in the form of a small button of iron, while hot, and to be repeated three times a week. He had a slight feverish attack on the 19th, and the application of the hot iron was discontinued. The

attack subsided in a few days, and the cautery was resumed. The mass now began to diminish slightly in size, but the glands on the opposite side of the neck began to enlarge, and cough and shortness of breath came on. All active treatment was therefore discontinued, and on the 28th he was transferred to the physician for hæmoptysis and other chest symptoms, under which he gradually sank, and died on the 10th of February, 1867.

Mr. T. P. Pick, Curator of the Museum, has furnished the notes of the post-mortem examination:—

Externally.—The body was emaciated; the legs were œdematous; there was a large lobulated swelling on the left side of the neck.

Thorax.—There was a quantity of fluid in the left pleural cavity, and the lung on this side was compressed and destitute of air; the right lung was œdematous and full of frothy fluid. The pericardium contains a little fluid. The left side of the heart was open; the right contracted; the valves and structure were healthy.

Abdomen.—The liver was slightly lardaceous; the acini well marked, and semi-transparent; the spleen was natural; the kidneys were large, smooth, and mottled; no amyloid reaction.

Neck.—The swelling in the neck was due to tubercular infiltration of the cervical glands; these glands extended in every direction upwards to the occiput, backwards to the spinous processes; inwards between the pharynx and vertebræ to the right side, and downwards into the thorax; in this latter situation they had pushed the aorta over to the left side, so that the innominate artery was elongated, and crossed the trachea just at the point where tracheotomy is performed. The pneumogastric and laryngeal nerves were compressed and flattened.

ART. 149.—On the Gravelly or Calcareous Cysts of the Eyebrows.

By Drs. J. and A. SICHEL.

(*Gazette des Hôpitaux*, No. 56, 1867.)

The following practical observations on cysts of the eyebrows, form part of a work about to be edited by MM. J. and A. Sichel.—(*Traité complet, théorique et pratique, des maladies des yeux*).

"Cysts of the eyebrows are classed among the rare affections; the most recent treatises of ophthalmology have almost quite passed them over in silence, and no mention has been made of the especial rarity of the gravelly or calcareous cyst of the brow.

"Having observed a number of these growths, and one of us having had occasion to extirpate a cyst of this kind, we publish this case with some remarks, to which we intend to add, at a later period, an article upon the simple cysts and their actions.

"The gravelly cysts of the eyebrows, or rather of the supraciliary region (for they are generally situated a little below the brow under the derma), are small tumors of an osseous or stony hardness, from four millimetres to a centimetre and a half in diameter, generally more or less quadrangular, and always very flat. Though movable under the skin, they cannot be displaced in every direction, nor to any great extent, since the posterior surface is nearly always adherent at some one point, generally at its centre. For this reason it is necessary, in operating for their removal, always to make the skin incision of a somewhat greater length than the dimensions of the tumor might at first sight seem to require; for unless this is done the dissection of the posterior surface of the cyst and its removal will be tedious both for the operator and the patient, for the operation is neither so serious nor so painful as to demand a recourse to anæsthesia."

Case reported by Dr. J. Sichel, Sen.—"Mlle. M., of a lymphatic and nervous habit, though otherwise healthy, has had, since her infancy, a gravelly or stony cyst of the right supraciliary region. This indolent swelling, which in 1843, when the patient, aged seventeen years, came under my notice for the first time, was of the size and shape of a French bean, was placed transversely between

the chief fold of the upper eyelid and the lower border of the outer third of the brow lying under the superior part of the lid, and could be partially pushed up under the skin of the supraciliary region. The removal of the tumor was proposed; but as the annoyance caused by it was not sufficient to allay any apprehension of an operation, my advice was not taken, and the treatment was for the next three years confined to the application of dissolvent lotions, the inefficacy of which I had predicted. In 1846 the tumor had increased but very little in size, but the superior half of its posterior surface had become adherent. As the deformity was disagreeable, and not concealed by the hairs of the eyebrow, the young woman and her parents requested me to remove it by operation. This was done on July 16, 1846, with facility, as the patient was very courageous. A transverse incision was made, and the only difficulty was the dissection of the very firm adhesion of the upper part of the back of the tumor, which had to be performed with much care, for fear of injuring the periosteum. The tumor was sixteen millimetres in length, twelve in width, and three in thickness. It had no enveloping membrane, but was surrounded by cellular tissue even at its adherent part. Another similar swelling, though not so hard, and resembling an engorged gland or a fibrous cyst, was noticed in front of the left ear. The resulting cicatrix was linear, and scarcely visible.

"Chemical and microscopical examination.—This was made in May, 1849, by M. Leconté, then demonstrator at the College of France. The following is his report:—

"The tumor, preserved during nearly three years, was dry, somewhat shrunken, and in two parts. The cyst was separated into two fragments, one the size of a small bean, the other that of a millet seed. It was of a yellowish color, and its specific gravity was greater than that of water. It could not be cut without difficulty, and on section, it presented at certain points a horny appearance. When treated by diluted nitric acid, there was a slight effervescence. After a sufficient contact the liquid was divided into two parts, one to serve for the examination of the basis, the other for that of the acids.

"The first portion, when mixed with some hydrochlorate of ammonia neutralized by pure ammonia, and finally treated with the oxalate of this base, deposited a copious precipitate—indicative of lime. The filtered liquid was tried by phosphate of soda and ammonia, which produced a precipitate—indicative of magnesia. The tests applied for the detection of other bases gave only negative results.

"The second portion of the liquid being separated into two parts, and treated by chloride of barium and nitrate of silver, furnished no precipitate; hence sulphuric and hydrochloric acids were absent. Nitrate of silver, salts of magnesia, nitrate of uranium, chloride of iron, did not detect the presence of phosphoric acid in a third part of the liquid, from which the bases had been previously precipitated by means of sulphuric acid and alcohol.

"The solid residue not attacked by the nitric acid was well washed, and then placed under the microscope. It was observed to be made up of irregular cellular spaces. This residue, when calcined with dry potash, gave off ammonia.

"The cyst is therefore composed of carbonate of lime and carbonate of magnesia, deposited in the irregularly formed cells of an abundant organic and nitrogenous structure."

ART. 150.—*On the Adaptation of Artificial Palates.*

By GEORGE PARKINSON, M.R.C.S., Dental Surgeon to Charing Cross and West London Hospitals.

(*The Lancet*, January 12, 1867.)

There are three evils susceptible of remedy by artificial palates; first, defective enunciation; second, the escape of solids and fluids through the nasal passages; third, difficulty of swallowing. In a case of congenital fissure of the palate extending through the hard tissues and alveolar ridge, after having taken a correct model of the parts in wax or plaster of Paris, Mr. Parkinson

commences by fitting a thin plate of gold over the vault of the palate, as far back as the posterior margin of the palate bone would have extended had the bony arch been perfect. To the posterior margin of this plate, by means of a hinge, is attached a velum, constructed of hard, well-polished, vulcanized India-rubber, formed in such a manner as to fit the palatine surface of the remnants of the soft palate and allow them to glide over it in the act of deglutition. To keep the velum in its place, one end of a delicate gold spiral spring is made fast to it, the other end being fixed on the nasal surface of the gold plate representing the hard palate. This spring must be so adjusted as just to keep the India-rubber velum in contact with the soft parts, and allow the portions of uvula on either side to approximate in the act of deglutition. Each particular case may require some slight modification, but all that Mr. Parkinson has treated on this principle have been, he thinks, highly satisfactory. The voice is not always immediately improved, as education of the tongue is necessary in all congenital cases. The patients for whom Mr. Parkinson has constructed these palates have, without exception, experienced great comfort from their use, the only inconvenience ever complained of being a slight nausea on the instrument being first introduced, which generally passes off after a few minutes. The materials used are perfectly durable. The only part that could possibly get out of order is the spring; but this would only be the result of careless manipulation out of the mouth, and could easily be repaired at a trifling cost.

In constructing an artificial palate in cases where both bony and soft tissues have been lost by disease, Mr. Parkinson does not deem it necessary to have a hinge or spiral spring. He makes the vulcanite velum a fixture to the gold plate fitted to the anterior part of the mouth, or constructs the whole of gold or vulcanized India-rubber. In these cases the voice is immediately restored to its natural tone, and the fluids not being permitted to escape through the nose in the act of drinking, the comfort of the patient is wonderfully enhanced. Mr. Parkinson does not think artificial palates can be adapted with advantage to children under twelve years of age, and that ordinarily sixteen is quite young enough; although he has, at the urgent desire of the parents, fitted them to patients of thirteen. In cases where the fauces are particularly irritable the bromide of potassium might be used with benefit; but never having had occasion to employ it, he cannot give an opinion as to its effect.

ART. 151.—*Sympathetic Ophthalmia.*

By GEORGE LAWSON, F.R.C.S. Eng.

(*Injuries of the Eye, Orbit, and Eyelids.*)

The following case is recorded by Mr. Lawson:—

"S. H., aged twenty-five, came to the Ophthalmic Hospital, Moorfields, in December, 1862, to seek advice concerning the right eye, the sight of which he had lost nearly twenty years previously. The cornea was nebulous; a portion of the iris had evidently been removed for the purpose of making an artificial pupil, and some opaque capsule occupied the irregular pupillary space. The eye was soft, and as an organ of vision useless; it was liable to attacks of inflammation, which gave him considerable annoyance. As the eye was then quiet there was no need for active interference; but the patient was strongly advised, if it again became troublesome, to come at once to the hospital and have it removed, as it was very possible it might act injuriously on the sound eye. On July 11, 1863, he again came to the hospital on account of the bad eye being inflamed and painful. Its removal was urged, but in vain; he was treated with belladonna fomentations and tonics, and all active mischief for the time ceased. His great objection to having the eye removed was, that as he was subject to epileptic fits, he did not like to wear an artificial eye. In November of the same year he was again suffering from a recurrence of the inflammation, but under the use of soothing applications the eye sufficiently recovered to enable him to cease his attendance at the hospital. On March 8th, 1864, he

returned to the hospital with the right eye again inflamed, and he was strongly urged to part with it, but he positively declined to submit to the operation. On the 22d of the same month the left eye began to show symptoms of sympathetic irritation. The whole globe had a pinkish appearance; there was a ciliary zone of redness around the cornea, and a decided dimness of vision. He was unable to define clearly, and it was with difficulty he could read No. 2 Jaeger's types: even then he refused to submit to the removal of the right eye. On March 28th the symptoms of sympathetic irritation in his left eye were much more manifest, and active deep-seated inflammation was present. The whole eye was very red, the aqueous serous, and the pupil fixed; he was now not only willing, but anxious, to part with the right eye. He was at once admitted into the hospital, and I removed the eye which had given him so much trouble. From the operation he made a good recovery; but the disease, which was now thoroughly established in the left eye, was not arrested; unhappily, it steadily progressed. On April 11th he was unable to count fingers, and since then he has become totally blind."

Mr. Lawson is of opinion that if the patient had submitted to the removal of the source of irritation at the commencement of the attack of sympathetic ophthalmia in the good eye, there would have been a much greater chance of his recovery; but the delay in his case unfortunately rendered the operation, though his only chance, too late for success.

In the treatment of sympathetic inflammation of the eye, Mr. Lawson says we must consider—1. How to arrest the progress; and 2. How to deal with an eye which remains damaged after the disease has been arrested. If the sympathetic inflammation of one eye is dependent on injury to the other, and it is clear that the wounded eye is a lost one, or if it arises from the irritation of the remains of an already lost eye becoming inflamed, then there cannot be a moment's hesitation about the propriety of at once removing the exciting cause of the disease, and extirpating the diseased or the injured eye.

Suppose the sympathetic irritation is due to a wound in the other eye, and that the injury has not been quite sufficient to destroy sight, how then should we act? In such a case Mr. Lawson says, if he saw the patient suffering with the one eye in the *early stage* of sympathetic ophthalmia, he would unhesitatingly sacrifice the injured eye with the hope of saving the other. As regards *general treatment*, absolute rest to the eyes is imperatively demanded, and it is of the greatest importance that the patient should be kept for a long period in a very subdued light. In some cases Mr. Lawson has seen decided benefit from a moderate inunction of mercury, but quinine in one or two grain doses must be given at the same time.

Local Applications.—Belladonna in one form or another affords the most grateful application to the eyes. A solution of atropine, of the strength of one grain to the ounce, should be dropped into the eye three or four times a day. It has a double effect; it is a direct and very excellent sedative to the eye, allays irritability and relieves pain, and sometimes it seems to exert almost a specific action on the disease; but in addition to this it dilates the pupil, and so helps to destroy recent adhesions, and by maintaining the dilatation tends to prevent the formation of a closed and contracted pupil. The frequent use of a belladonna fomentation also gives great comfort.

Operative interference is prejudicial whilst the eye is actively inflamed.

If the disease has been stayed before the deeper parts of the eye have been seriously implicated, and a fair perception of light remains, much may be done to restore useful vision to the eye. In a severe, though not an extreme case, the pupil will be found closed and contracted; its margin, and probably also the greater part of the posterior surface of the iris, bound to the capsule of the lens, and the small pupillary space filled up with a dense false membrane; the iris has been altered in structure and become fibrous, and its elasticity has become destroyed. In such an eye an ordinary iridectomy would fail, partly because it would be difficult, if not impossible, to get away sufficient iris to form an opening large enough for an artificial pupil; and partly from the portion of lens, which would be exposed if an artificial pupil was successfully made, having its capsule coated with uvea, owing to the adhesions which had existed between

it and the posterior surface of the iris. It is generally, therefore, advisable in such severe cases to get away the lens at the same time that the operation is performed for making the artificial pupil. In the milder forms of sympathetic ophthalmia, where the tissue of the iris has not been so much changed, and where the adhesions between it and the lens capsule have not been so complete, an iridectomy alone may be sufficient.

ART. 152.—A Case of Hemiplegia dependent upon Polypi in the Ear.

By Dr. SCHWARTZE.

(*Arch. f. Ohrenheilkund*, 1, pp. 147-151.)

The patient was a woman, aged thirty years. She had had polypi in her right ear for many years, and the meatus was completely filled with these growths. During an attack of acute bronchial catarrh, symptoms of severe otitis were presented, and at the same time the patient noticed that sensation on the right side of the face, and afterwards that of the whole of the right side of the body, was impaired, and also that movements in the right extremities were impeded. Frequent attacks of vertigo and repeated vomiting complicated these symptoms. Two of the four polypi in the ear were removed, and an energetic antiphlogistic treatment was put in force, and in the course of six days the paresis and anæsthesia disappeared.

Observations.—The rapid occurrence, and the no less rapid disappearance, of the grave symptoms presented in this case were probably due to hyperæmia of the brain and of its membranes, resulting from acute inflammation of the tympanum which was excited by retention of pus.

It is well known that vertigo, unilateral cephalalgia, a sense of pressure in the head, are frequent symptoms in connection with polypi of the ear, when these growths, by blocking up the external meatus, give rise to retention of pus in the tympanum, and thus produce abnormal pressure upon the contents of the bony labyrinth. But the symptoms of an abiding irritation of the vagus nerve, such as nausea and chronic vomiting, have been rarely observed. A case of hemiplegia caused by aural polypi has not hitherto been reported, although the same affection has frequently been observed in connection with the presence of foreign bodies in the external passages of the ears.

(B) CONCERNING THE TRUNK.

ART. 153.—Injections of Chloroform in the Treatment of Hydrocele.

(*Medical Times and Gazette*, January 19, 1867.)

A few weeks ago, Dr. Sennleben, of Berlin, in a visit to the London Hospital, mentioned to Mr. Hutchinson that in Germany injections of chloroform had been used with great success in the treatment of hydrocele. A patient having been admitted with a large, thin-walled bursa in front of the patella and its ligament, which had resisted treatment by blisters, &c., it was determined to try this method of cure. The tumor was as large as an adult fist, but lengthened and flattened. It was not inflamed. Mr. Disney Thorp, the House-Surgeon in charge of the case, punctured the cyst with a hydrocele trocar, drew off the whole of the fluid, and then injected a drachm and a half of pure chloroform, which was left in. No particular pain was caused, but the bursa quickly refilled as large as before. It remained full for about a week, then absorption commenced, and in three days every trace of fluid and of swelling had vanished. It is intended to try the same plan in other cases.

ART. 154.—*Starch Injections in Urethritis.*

(*Recueil des Mémoires de Médecine et de Chirurgie Militaires; British Medical Journal*, March 23, 1867.)

M. Luc uses a tolerably thick solution of starch in acute urethritis, and, he says, with great success. It is, of course, simply prepared and easily used. To introduce it into the syringe, it is best to withdraw the piston first. "It never produces pain, and avoids strictures."

ART. 155.—*On a Case of Spasmodic Stricture of many years' duration.*

By CAMPBELL DE MORGAN, F.R.S., Surgeon to the Middlesex Hospital.

(*The Lancet*, April 13, 1867.)

The frequency and the duration of spasmodic stricture are still amongst the unsettled points of surgery. Some foreign surgeons deny altogether the existence of true spasmodic stricture. In England the doctrines of Hunter and Home have taken too deep root to permit of such scepticism. But we find that the extent to which spasm may be regarded as a cause of obstruction to the stream of urine is very differently estimated by those who fully recognize its existence. The following quotation from Mr. Henry Thompson's article on diseases of the urinary organs in the "*System of Surgery*," gives the opinion of a surgeon of great experience, and represents the views of perhaps the majority:—

"It is extremely rare that any considerable narrowing of the urethra takes place as the result of pure spasm of the muscles surrounding the passage. Granted, however, the presence of organic narrowing, or of inflammation in the canal, and an undue action of the urethral muscles may be excited, so as still further to narrow it. There is no doubt that a slight degree of this action may be excited in any part of the passage. * * * * But it is important to remember that the distinguishing feature which marks the phenomena thus ascribed to irregular muscular contraction, and by which they are contrasted with those of organic stricture, is their transitory character."

In the correctness of the first part of this quotation most will agree, but I doubt whether the second can be received absolutely and without some reservation. Generally, no doubt, the state of spasmodic stricture is very variable, but it is not always so. One sees cases now and then, in which all the signs of a narrow stricture are present, which yield readily to the contact of a bougie, and return rapidly when its use is discontinued, but where, after death, the appearances of permanent stricture are too insignificant to account for the condition during life. Admitting that a trifling organic contraction is present, the symptoms must solely be attributed to a permanent spasmodic state of the urethra, or to what comes practically to the same thing a spasmodic contraction occurring whenever the patient endeavors to pass water.

The following case is, I think, a remarkable illustration of the possibility of the occurrence of true permanent spasmodic stricture. The patient—himself a surgeon—gives so circumstantial an account of his symptoms that no doubt can exist as to the fact that he had for years all the signs of permanent organic stricture; the result would show that he had probably never had organic stricture at all.

This gentleman, a surgeon-major in the army, is now fifty years of age. He first noticed the symptoms of stricture as long ago as 1847, after an attack of gonorrhœa, during which the spasmodic difficulty in passing water was so great, and the pain attending the effort so severe, that he always had recourse to the hot hip-bath. When the gonorrhœa had passed off he found that the stream of water was smaller and spiral, and that a few drops of urine always remained in the urethra. He tried himself to pass a bougie, but it seems always used a small one, and failed to reach the bladder. From this time the stream very

gradually but steadily diminished, and passed irregularly, sometimes to one side, sometimes to another. He did not, however, care to have advice, as the complaint did not cause him much annoyance.

While on duty in Burmah in 1852 he noticed that there was a constantly recurring gleet discharge, and he had at this time a swelled testicle.

On returning to England in 1859 the stream was about the size of a crow-quill, and it took a considerable time to empty the bladder. He now began to suffer much inconvenience. Exposure, especially to night air, caused very frequent micturition, with pain in the lower part of the abdomen and loins. If he resisted the urgent desire to pass water great irritation of the rectum came on. From this time he was never free from these symptoms. The time taken in passing water became more and more protracted. The stream was sometimes thready, never larger than a crow-quill; sometimes the water has come in drops only. Lately he has suffered from pain in the perineum, muco-purulent discharge and irritation at the orifice of the urethra. The discomfort from pain, irritation, and frequent micturition became so great that he determined to undergo regular treatment. He placed himself under my care, fully prepared to undergo any operation, by splitting, or perineal section, so long as he could be quite cured.

The account he gave was so positive and circumstantial that I did not doubt for a moment that there must be some organic stricture. The perineum had a natural feel, but there was tenderness in the scrotal part of the urethra.

Instead of at first passing a full-sized instrument as I always do, I introduced a No. 6 catheter. On passing it through the scrotal region he complained of soreness, but there was no obstruction. At about the beginning of the membranous part the further passage was stopped. There was not any particular pain at this part, and the resistance was not firm. Smaller and smaller instruments were tried, but none would pass this point. Satisfied that there must be some spasmodic contraction, but at the same time believing that there was organic stricture, I ordered a large dose of bromide of potassium to be taken overnight, and on the morning of my next visit I then found he had had a quieter night, but the instrument would not pass. A third attempt some days afterwards was made under the same circumstances and with the same result.

I found that there was always tenderness in the scrotal region; and, desirous of ascertaining whether the urethra was narrowed at this part, I now for the first time tried a full-sized catheter (No. 11). There was no obstruction, and I passed it down to the seat of stricture. On making a very slight pressure the obstruction gave way, and the instrument passed into the bladder without the slightest difficulty. The next time he passed water it came away in a full stream; after that it diminished a little, but there was no further difficulty. I passed a No. 11 for him without meeting with any obstruction two or three times afterwards, and sent him home perfectly well, with instructions to use a large catheter if ever he found a tendency to diminution of the stream.

There can be no doubt, I think, that we have here an instance of long-protracted spasmodic stricture, never disappearing, indeed scarcely varying, during some years. It cannot be imagined that an organic stricture of over ten years' standing would at once yield to the gentle pressure of a No. 11 catheter and give no further trouble, when it had resisted the attempts to pass smaller instruments. It is possible that the irritable point in the scrotal part of the urethra may have had to do with the more distant spasm. It is possible that, whatever the source of irritation, the bromide of potassium may have quieted it. This is, however, all conjectural; but there can be no doubt as to the spasmodic nature of the obstruction. The case may be exceptional in point of duration, but it is not the less instructive.

ART. 156.—*On the Seat of Urethral Stricture.*

By M. H. FOLLET.

(Archives Générales de Médecine, April, 1867; Gazette Hebdomadaire, April 12, 1867.)

A great majority of the authors upon stricture of the urethra have referred its usual seat to the junction of the bulb with the membranous portion of the canal; and though many surgeons have admitted contraction of the spongy portion of the urethra as a fact well attested, though of relatively rare occurrence, the classical seat of stricture, M. Follet states, still continues to be the bulbo-membranous region. M. Verneuil, in a communication to the Anatomical Society, has put forward on this subject a totally different opinion; he would reverse the proposition, and say that spontaneous blennorrhagic stricture rarely occurs at the membranous portion, but is found, in most instances, in the perineal part of the urethral canal. M. Follet publishes six cases of organic stricture, of which one alone occupied the bulbo-membranous region, all the others being seated in the spongy part; the author has also studied the influence of urethro-vesical spasm upon contractions of the penile portion of the urethra. The following are the conclusions with which M. Follet sums up his interesting memoir:—

1. Spontaneous fibrous organic stricture frequently exists in the spongy portion of the urethra in its penile portion. It is often overlooked.

2. Organic strictures of the bulbo-membranous regions, though pronounced to be frequent, are rare.

3. In every case of penile stricture, a second obstruction exists at a distance of about thirteen centimetres from the meatus, at the commencement of the muscular part, and at the entrance to the neck of the bladder. It is this remote obstruction that has given rise, among observers who have frequently failed to recognize the penile stricture, to the classical opinion concerning the bulbo-membranous seat of stricture of the urethra.

4. The calibre of the penile stricture remains constant, or dilates but slowly and regularly; on the other hand, the most rapid and capricious changes may be observed in the diameter of the deep-seated obstruction; if easily traversed in the morning, it may towards the evening become, under the influence of some irritation, altogether impassable.

5. This second obstruction is due to muscular spasm; the penile stricture of which it is symptomatic is often wide, and does not by itself impede micturition to any great extent. It is the secondary spasm that causes the dysuria, and constitutes a serious and sometimes insuperable obstacle to the passage of the catheter.

6. In those rare cases where the fibrous obstruction is seated at the bulb, the secondary spasmodic stricture is not absent, but exists directly behind the first. Here also the fibrous contraction often allows the passage of the point of the exploring instrument. It is always the spasm that closes the entrance into the bladder.

ART. 157.—*A Case of Orchitis following Catheterism. Suppuration and Elimination of the Tissue of the Testicle. Death from Peritonitis.*

By M. FOUCHER, Hôpital Saint-Louis.

(Gazette des Hôpitaux, March 21, 1867.)

A tinman, seventy-two years of age, was admitted into the hospital on the 1st of December, 1866, for retention of urine dependent upon an enlargement of the prostate. The patient was of a good constitution, but affected with a double reducible inguinal hernia. From the time of his admission the bladder was freely relieved by repeated catheterism. On December 15th slight pain was felt in the right testicle, which was followed by swelling of the gland and epididymis,

and redness of the skin. Fomentations were applied, and the patient was kept to his bed; but up to the 1st of January, 1867, there had been very little change in the condition of things, except that the patient seemed to have become debilitated. On January 2d an abscess about the size of a large filbert appeared on the outer surface of the glandular swelling; this was opened, and exit given to some thick healthy pus, which came apparently from a deep-seated part of the testicle. The patient was not relieved by this proceeding; pus continued to be discharged from the orifice of the abscess; the spermatic cord now commenced to swell, and radiating pains were felt in the abdomen; slight tympanitis, constipation, and vomiting now came on, but these intestinal disturbances were relieved by an enema. On the 9th of January a mass of filamentous substance of a grayish color, and looking like seminiferous tissue, was seen to project through the fistulous orifice of the abscess. After five or six days the tufts made up of seminiferous tubes became unravelled, and were carried away by the pus, and thus eliminated; at last there remained in the situation of the right testicle a lump of not more than half the size of the healthy organ of the left side. Whilst these changes were going on in the testicle, the cord became painful and swollen in its inguinal and scrotal portions, but without any change taking place in the color of the integument. The abdomen became very tympanitic and painful, there was obstinate constipation, accompanied by frequent vomiting, the pulse became rapid, and on the evening of January 23d the patient died.

Autopsy, January 25th.—Over the right testicle the coats of the scrotum were thickened, indurated and closely united together. Upon the outer surface of the gland was an opening about $1\frac{1}{2}$ centimetres in length, the lips of which were of a grayish color. After the superficial structures had been carefully dissected away from the proper enclosing membrane, the testicle was found reduced to half the size of its fellow. The tunica albuginea was soft and weak throughout, and in it there was an opening corresponding in size and situation to that existing in the more superficial part. A mass of pale tissue, infiltrated with pus, and adherent to the surface of the cavity of the tunica albuginea, was evidently the remains of the septa of the testicle mixed with the debris of seminiferous tubes. In the cellular tissue connecting together the convolutions of the canal of the epididymis were scattered small yellowish concretions, some of them solid, others softened and transformed into pus. The spermatic cord was followed from the upper surface of the right testicle to the abdomen; it presented at intervals small purulent collections which had formed in the cellular tissue uniting its different elements. The largest and highest of these abscesses was seated in the middle part of the inguinal canal, and was here in contact with the bottom of the hernial sac; the neck of which was placed at the inner abdominal ring. This sac, though communicating with the peritoneal cavity, did not contain any intestine, but was filled with pus. In the abdomen were found all the lesions of an intensely acute peritonitis.

Remarks.—This case is of twofold interest; it supplies a novel example of suppurative orchitis with elimination of the seminiferous substance, the most serious result of inflammation of the testicle, and which was induced in this case by rapid weakening of the patient.

Before M. Targavay had by his laborious researches thrown fresh light upon this subject, hernia of the substance of the testicle had been confounded, and in England particularly, with fungus of the testicle. The granular appearance of the hernia of the glandular substance may doubtless favor the idea of its being a fungus; but care should be taken to find out whether the tissue be filamentous and easily untwisted, for the existence of these characters, together with the color of the mass, will leave no room for doubt.

The second point of interest is the occurrence of fatal peritonitis under conditions altogether unusual. Inflammation was developed first in the body of the testicle and in the epididymis, and involved the cord; it next attacked the hernial sac, and by this was transmitted to the whole of the peritoneal membrane.

ART. 158.—*On Prolapse of the Urethra in Children.*

By M. GUERSANT.

(Bulletin de Thérapeutique, October 15, 1866.)

M. Guersant has met with twelve or fifteen cases of prolapsed urethra in girls from two to twelve years of age, although this affection is scarcely mentioned in the literature of the diseases of the urinary passages. He attributes it to the following causes: 1. Repeated straining, as in the cough of pertussis and chronic bronchitis, and in the repeated and forced attempts at defecation consequent upon constipation. 2. General debility. Dr. Guersant has met with prolapse of the mucous membrane of the urethra in young girls during a long convalescence from acute disease, and during chronic affections. The infants do not suffer much from this affection; there is sometimes a frequent desire to micturate and scalding during the passage of urine. If the parts be examined, the vulva will be found redder than it usually is, and at the meatus urinarius will be observed a small rosy swelling, apparently proceeding from the interior of the canal, and the surface of which is formed of mucous membrane; at the centre of this little tumor there is an orifice through which a sound may be passed and carried into the bladder. This state of things may continue for a long time without producing any disturbance, but sometimes the swelling increases gradually, and gives off a sanguineous discharge which afterwards becomes purulent, its surface becomes irritated, and superficial sloughing may occur, with inflammation of the adjoining parts and vulvitis.

Prolapse of the mucous membrane of the urethra may be diagnosed from a urethral polypus by its forming a circular swelling with a depressed centre at the meatus, and by the absence of a pedicle.

In the treatment of this affection M. Guersant prefers incision to cauterization or the ligature, as the growth is by this means removed promptly, and the child is sooner restored to its normal condition. He does not administer chloroform in this operation, except the little patient be timid or difficult to manage. The labia majora having been separated by an assistant, the prolapsed portion is drawn forward either by a tenaculum or by a loop of thread, and then snipped off at one stroke by curved scissors. If there be much hemorrhage, it may be arrested by the application of a solution of perchloride of iron, or by pressing upon the womb for some seconds a small plug of agaris saturated with the styptic fluid. Frequent washing with cold water and the occasional application of the stick of nitrate of silver will suffice to produce cicatrization. Micturition is painful for a few days after the operation, but this will not continue long.

In one case where the projection had been incised, and the subsequent hemorrhage could not be arrested by the perchloride of iron, M. Guersant applied a bladder of ice over the hypogastric region and the front of the vulva for twenty-four hours; this plan was followed by success.

ART. 159.—*Case in which Persistent Priapism was caused by Extravasation of Blood into the Corpora Cavernosa of the Penis.*

Under the care of Mr. JOHN BIRKETT, of Guy's Hospital.

(The Lancet, February 16, 1867.)

Cases of persistent priapism are exceedingly rare. Many writers on the special diseases of the male genital organs do not even allude to the complaint, and in the records of English surgery there are only two instances.

T. V., a laborer in the country, forty-four years old, was admitted into Lazarus ward on the 14th January, 1865. He stated that he had been suffering from continued priapism for ten days. The only statement he made was, that after copulation the penis remained permanently erect. During the first week he felt passionate venereal desires, which subsided and have not recurred. The

cavernous bodies seemed to be the chief seat of the lesion, for the glans penis and corpus spongiosum were not turgid. The man suffered great pain in the part, which was increased by the least attempt at pressure or depression of the organ. He appeared to be cachectic and much out of health, although he stated that he had not been at all so. There was not the slightest evidence of any disease in any other organ of his body, each of which was carefully examined, especially the brain.

A common embrocation was immediately applied, and two days after admission Mr. Birkett introduced a bistoury through the fibrous tissue of the penis into the cells of the corpora cavernosa in two places on each side. Dark, thick, blood-like fluid flowed, resembling that which escapes from a large blood swelling when punctured.

Jan. 18th.—The penis rather œdematous, especially the glans; pain in the part less; priapism scarcely altered.

20th.—On the right side the swelling was more than on the left, and there was a distinct sensation of fluctuation. An incision was made, but only the same kind of bloody fluid as before escaped, with a trace of pus. Warmth and moisture were applied by means of wet lint and gutta-percha.

23d.—More punctures were made on both sides, as the man bitterly complained of pain, and the penis had not diminished in size. Warmth and moisture continued.

27th.—Bloody fluid and a little pus escaped from the punctures; less pain in, and diminished rigidity of, the penis. Complains of pain in the perineum. During the whole of the time to which this report refers he passed urine without any difficulty, and with only slight pain.

Feb. 4th.—Not so much pain; the erection is less, the corpora cavernosa being no longer rigid and hard, although there remains an œdematous state of the glans. Pressure by means of strips of soap plaster employed. There has been very slight constitutional disturbance. During the early part of this month the man progressed favorably, and was able to leave his bed and walk about; but towards the end of it suppuration took place in the left corpus cavernosum. An incision was made into it, about an inch below the glans, and pus and some sloughs came away. The finger could be passed into the fibrous capsule, and towards the crus into the perineal region. Strapping continued.

March.—During the whole of this month pus escaped from the openings in the sides of the penis, which were carefully kept open, whilst the sides of the organ were compressed by strips of plaster. Water-dressing was applied over the apertures.

April.—Suppuration continued, rather profusely at times, during this month, and about the middle of it an incision was made in the left crus penis behind the scrotum, in order that the pus might escape more readily by gravitation. This was attended with beneficial results; and although the man was low and his reparative powers were much reduced, in spite of a generous diet and tonics, he seemed likely to be soon well.

May.—In the early part of this month the man was rather suddenly seized with great constitutional disturbance, which resembled the commencement of an attack of pyæmia. It seemed, however, to be produced by some local inflammatory action, for after a more profuse escape of pus from the perineal opening the man rallied. From this date (about the middle of May) he gradually improved in health, the discharge of pus diminished, and he left the hospital on June 9th, well. At the time of his exit the penis was of normal size.

The recovery of this patient would have taken place about the middle of February, or in about a month after the extravasation of blood occurred, had not suppuration arisen, to which cause his protracted convalescence must be referred. From the moment of his admission Mr. Birkett determined to treat the case on the principle adopted in all swellings resulting from extravasation of blood; that is, to leave the repair of the injury to the efforts of nature, and not to interfere with the process of absorption. The man, however, complained so bitterly of the pain caused by the distension of the organ, that the incision was made for the purpose of affording relief mechanically—a practice Mr. Birkett would not again adopt.

The first case was recorded by Mr. Callaway in 1824. (*London Medical Repository*, 1824, p. 286.) The man was forty-four years old; and, whilst intoxicated, had connection with his wife. The state of the penis was exactly similar to that above described; and the priapism had continued unchanged for sixteen days, when Mr. Callaway made an opening into the left crus penis below the scrotum, and a large quantity of dark, grumous blood, with small coagula, escaped. The corpus cavernosa were emptied, and a few days afterwards the man was able to follow his work.

The second case is published in *The Lancet* of July, 1845, and is described by Mr. John W. Tripe, of Hackney, under whose treatment he continued for four days, and was then admitted into the London Hospital, under the care of Mr. Luke. The man was a sailor, aged twenty-six years. The priapism continued after frequent connection, and was persistent for about four months. In the course of time the blood appears to have been absorbed, and the functions of the organ to have become perfectly restored. The man left the hospital after being therein only ten days, and the further progress towards recovery was unassisted by surgical art.

To these another may be added which we saw recently in St. Mary's Hospital, under the care of Dr. Handfield Jones, and in which, after persistence of the symptoms for a month, relief was obtained by an incision made by Mr. Haynes Walton into the corpus cavernosum of one side.

ART. 160.—*Radical Cure of Varicocele.*

(*Vierteljahrsschrift für praktische Heilkunde*; and *Edinburgh Medical Journal*, March, 1867.)

Maisonneuve, for the radical cure of varicocele, recommends the use of coagulating injections of the perchloride of iron by means of a syringe. A single injection of two to twenty-five drops is sufficient to obliterate the whole bundle of the veins of the plexus pampiniformis without the slightest risk to the life of the patient, or to the integrity of his sexual functions.

ART. 161.—*Hydatid Cyst confined entirely to the Abdominal Wall.*

Under the care of Mr. HOLMES, of St. George's Hospital.

(*The Lancet*, March 30, 1867.)

This case is given as an instance of an affection which is rare, especially in childhood—viz., a genuine hydatid tumor confined entirely to the abdominal wall, though close to the position of the liver. On the boy's first admission into the hospital, the diagnosis of a superficial hydatid was formed, and it was proposed to expose it by a free incision in order to enucleate it. This, however, was considered dangerous by some of those who saw it, and who believed that the cyst had some communication through the abdominal wall with the interior of the body; and it was decided to evacuate the watery fluid and inject the cyst with iodine. But, on a second puncture, so little fluid escaped that this course was clearly impossible, and it was decided to recur to the previous plan when the tumor had refilled. Fortunately, the violence to which the interior of the cyst had been exposed in theappings caused it to suppurate, and thus produced the extrusion of the hydatid, and the cure of the affection by a simple incision. The child is now quite well, and it is clear that the cyst was entirely superficial.

J. E. was admitted on Dec. 5th. The boy had been an out-patient for about two months, with a fluctuating tumor in the abdomen. This rapidly increased in size for fourteen days before his admission, but gave no pain. It was punctured with a grooved needle, when a watery fluid escaped, containing a trace of albumen, but no parasites.

When admitted, there was a tumor about the size of a walnut on the right side of the linea semilunaris, considerably below the edge of the liver, which occupied its normal position.

Dec. 6th.—The tumor was punctured with a trocar, and but little fluid escaped. It was of a watery nature, and contained very little albumen. No hooklets could be found under the microscope. The quantity of chlorides was not determined.

17th.—Renewed puncture. Hardly any appreciable quantity of fluid escaped.

18th.—The tumor has greatly diminished in size, and there is hardly any sense of fluctuation.

21st.—He was discharged.

On the 9th of January he was again admitted, with the tumor enlarged to the size of an egg. It was distinctly fluctuating, and appeared to lie between the abdominal muscles and the skin. Just below its centre was a small point of reddened skin. The tumor was neither painful nor tender to the touch. Poultices were applied, and on the 17th it was opened, when an hydatid cyst escaped. The tumor then rapidly diminished in size, and the boy was discharged well on the 27th.

ART. 162.—*On the Diagnosis between Hernia and Enlarged Inguinal Lymphatic Glands.*

By JOHN W. OGLE, M.D., F.R.C.P., Physician and Lecturer on Medical Pathology at St. George's Hospital, &c.

(*British Medical Journal*, May 4, 1867.)

"At the recent meeting of the South-Eastern Branch of the Association, two very interesting cases were related by Dr. Bowles, of Folkestone, illustrative of the difficulties which may arise in diagnosing hernia, by reason of the presence of enlarged lymphatic glands in the groin. In the last of these, the patient had worn a truss for several years owing to a swelling as large as a small orange in the inguinal region, which consisted of enlarged glands caused by gangrene of the toe, no hernia ever having existed. I am able to "cap" this case of Dr. Bowles by another of a like kind, in which, however, the result unfortunately proved fatal. The case occurred in St. George's Hospital, and the patient died on the day after admission. It was as follows:—

"William A., aged eighty, was admitted October 5, 1846. He stated that for ten years he had worn a truss over a tumor occupying the right inguinal region; that, three days before admission, this tumor enlarged, and became red and painful, and that pain in the abdomen and occasional vomiting had shortly come on. No relief from the bowels had been obtained since the symptoms began. When admitted his expression was anxious and his pulse weak, and there was a tumor, about three inches in length, in the usual situation of an inguinal hernia. An incision was made in the long axis of the tumor (in order to ascertain its nature), which was found to consist entirely of enlarged and suppurating inguinal glands. During the night the sickness returned, the patient became much worse, and he died at 11 A.M. on the next morning.

"On post-mortem examination, the lungs were found to be much congested and the heart flabby, and extensive granular disease of the kidneys was met with. The spleen was soft, and adherent to the abdominal parietes. The peritoneum and intestines were quite healthy. The enlarged glands were found to contain deposits of pus. The other parts of the body were healthy."

Dr. Ogle quotes this case as proving how one may be misguided as to the nature of inguinal hernia, and as showing for how long a time a patient may wear a truss for such a tumor which is not a hernia, and what may be the injurious results of such a procedure.

ART. 163.—*Reduction of Hernia by Administration of Coffee.*

(*The Lancet*, March 16, 1867.)

That coffee has a very much more powerful influence on the peristaltic movements of the intestine than tea is pretty generally known; but we doubt whether this action has hitherto been brought into play in the reduction of hernia. The

following instance in which coffee was accidentally and successfully employed for this purpose will therefore interest our readers: A man who had for some years a reducible hernia, while over-exerting himself converted his hernia into an irreducible one. On being seen by Dr. A. Bourillon, who describes the case, he was suffering from colic and nausea, the pulse was small, and a round, hard tumor, giving a tympanitic sound on percussion, existed in the right groin. The relations of this showed that it was a strangulated right inguinal hernia. The taxis was tried in vain for hours. Applications of belladonna, tobacco, salt, &c., were also unsuccessfully tried. The next day the condition of things was worse, and all efforts to reduce the hernia were fruitless. It was therefore determined to operate on the following day, and the patient was meanwhile ordered to have infusion of coffee (100 grammes of freshly roasted and ground coffee to five cups of boiling water). On coming to operate in the morning, Dr. Bourillon found that the hernia was reduced. According to the patient's own account, the coffee having produced movement of the intestine, seemed to extend the contraction to the hernial sac, which passed inwards suddenly with a distinct *gargouillement*.

ART. 164.—*On a Case of Internal Strangulation of the Bowel by a Band, associated with a Reducible Hernia, successfully Treated by Operation: with Remarks.*¹

By THOMAS BRYANT, F.R.C.S., Assistant-Surgeon to Guy's Hospital.

(*The Lancet*, March 30, 1867.)

The case was one to which the author was called on December 31, 1866, by Dr. Wilkinson, of Sydenham. It was that of a gentleman, aged fifty-one, who had been ill for several days with symptoms of intestinal obstruction. The patient had been the subject of an inguinal hernia on the *right* side for twenty-five years, for which he had worn a truss; during that period the bowel had come down on several occasions, but it had only given pain on one—some six months previously. On the morning of December 28th, during the exertion of dragging up a tree, the hernia partially descended, but it was at once readily returned on the application of the hand; vomiting, however, soon appeared, and pain situated on the *right* side of the umbilicus. These symptoms continuing on the 29th and 30th, and increasing in severity, Dr. Wilkinson was sent for. A careful examination was then made, but no hernia was found; there was a large opening into the abdomen, but no swelling nor pain even on deep pressure being made. On December 31st (the third day) the symptoms becoming more severe, vomiting being fecal, Dr. Wilkinson, who saw the necessity for an operation, called in the assistance of the author. The seat of the hernia was then examined, but no indications of anything wrong in these parts could be made out, yet marked symptoms of intestinal strangulation existed: pain in the abdomen was very severe; it was situated to the right of the umbilicus, and paroxysmal. Under those circumstances, an exploratory operation in the region of the hernia was proposed, and power given by the patient to do whatever might be deemed the best. Chloroform was given, and the ring of the direct inguinal hernia exposed; no signs, however, of any strangulation of the bowel by the parts concerned in the hernia could be made out. A piece of omentum existed in the hernial sac, but no bowel. The finger could also be readily passed into the abdomen, and the neck of the sac was perfectly free. The bowel which came into view was, however, clearly strangulated, for it was of a bright cherry color, and œdematous. Under these circumstances the ring was enlarged upwards and the strangulated bowel drawn down; the finger of the author's right hand was then passed along the bowel, used as a guide, upwards into the abdomen towards the point of fixed pain. When it had been passed as far as it would go, and as much traction had been put upon the bowel as was deemed justifiable, a tight band was clearly felt. The abdominal incision was

¹ Paper read at the Royal Medical and Chirurgical Society, March 12, 1867.

then enlarged, and the band, which was made tense by the finger, was carefully divided by a pair of scissors passed into the belly, its points being well pressed into the pulpy portion of the finger till the band was reached. The wound was then closed. On the third day the bowels acted naturally, and a rapid convalescence followed.

The author then made some few remarks upon the case, stating that it must be looked upon as one of internal strangulation of the bowel by a band, and that the hernia had nothing whatever to do with the symptoms. He then passed on to consider the points in the case with reference to the diagnosis, and related the particulars of a similar case which took place in his practice six years previously, in which such an operation as he had performed was proposed but abandoned, and the patient died unrelieved.

An analogy between the successful and fatal cases was then drawn, and the special practical points dwelt upon, the author concluding by stating that he was disposed to believe that in many cases of intestinal obstruction, when the symptoms are marked, and pain fixed and paroxysmal, whether with or without a hernia, relief might often be afforded by an operation where they are now left to die; and he expressed a hope that the cases he had brought before the notice of the Society would do something towards the attainment of that end.

ART. 165.—*Complete Absence of the Rectum, with a perfectly formed Anus: Amussat's Operation: Death from Peritonitis: Clinical Remarks.*

Under the care of Mr. ERICHSEN, of University College Hospital.

(*British Medical Journal*, January 12, 1867.)

A very interesting case of complete absence of the rectal portion of the large intestine, with the unusual coexistence of a perfectly formed anal aperture, presented itself at this hospital a few days ago. A new-born child was brought in with a swollen abdomen, and was stated to have passed no meconium since birth. On introducing the finger into the anus, which was normally formed, it was arrested by a fold of membrane, at a distance of about half an inch. This was divided by Mr. Erichsen with a trocar, but no issue of meconium followed; while the finger, pushed up as high as it could reach, was unable to feel any portion of intestine. Suspecting, therefore, that the rectum was undeveloped, Mr. Erichsen determined on opening the descending colon in the left lumbar region (Amussat's operation). Unfortunately, there was in this case a long floating meso-colon; so that, instead of being fixed, the descending colon floated freely in the abdominal cavity, and had to be reached through an incision into the peritoneum. Peritonitis set up in consequence, and the child died three days after the operation. On examining the body, the rectum was found to be completely absent, without even a fibrous cord to represent it. There was no sigmoid flexure, and the descending colon terminated abruptly in a *cul-de-sac* at its lower part.

In the course of some clinical remarks, Mr. Erichsen drew attention to the very unusual coexistence of a perfectly formed anus with complete absence of the rectum and sigmoid flexure. Cases of simple imperforation of the anus, he observed, are of pretty frequent occurrence, where all the surgeon has to do is simply to divide with a knife the sort of operculum which closes the anal aperture, and which bulges outwards during the child's ineffectual attempts at defecation. In a second class of cases, the rectum terminates at some distance from the anus, and the surgeon has to dissect upwards to it, and, after dividing, bring down and stitch it to the sides of the anal aperture. In a third class of cases, as in the present instance, there is complete absence of the rectum, which is generally represented by a fibrous cord, although it may be absent, as in this child. In such cases, what is the surgeon to do? He must either stand by and let the child die, as he must inevitably do; or he may give him a chance of his life by opening the descending colon, and thus providing him with an artificial anus. However great the proportion of deaths after this operation may

be, Mr. Erichsen is of opinion that it is the duty of the surgeon to recommend and perform it. There are, according to him, certain conditions in which the surgeon must not stand by and let his patient die, but is bound to operate. Thus, he should perform tracheotomy when asphyxia is imminent from laryngeal disease; he should amputate in cases of secondary hemorrhage, or operate on a strangulated hernia, however prolonged the strangulation may have been; whilst, in retention of urine, the bladder must by all means be evacuated. To such conditions, imperatively demanding surgical interference, cases like the present may be added. Now, the colon may be opened in two places—either in front, as Littre was the first to suggest; or posteriorly, in the lumbar region, by Amussat's method. The former operation is by far easier than the latter; but it is attended with the very great disadvantage, that the intestine can only be reached through the peritoneum; and it is, therefore, nearly always fatal. By Amussat's method, the colon can be reached at the back, where it is uncovered by the peritoneum; although it sometimes happens, as was unfortunately the case in the present instance, that there is a long floating meso-colon, and that the peritoneum has to be divided in order to get at the intestine.

Mr. Erichsen added, that he had known one case in which Amussat's operation, performed soon after birth, on account of an undeveloped rectum and an imperforate anus, had been perfectly successful. The operation had been performed in Mexico; and the child was subsequently brought over here, and several London surgeons were consulted as to the feasibility of some operation that might get rid of the inconvenience of having an artificial anus in the left lumbar region. The inconvenience, however, was not apparently very great; and the child wore a hernial truss, with an India-rubber covering to the pad, over the aperture, and removed it two or three times a day for the purpose of evacuating the intestine.

It was decided that no operation was admissible, as it was inferred that there was total absence of the rectum for two reasons—first, because there had been at birth a communication between the bladder and the lower portion of the gut, as some fecal matter had been voided *per urethram*, mixed up with the urine; and secondly, because, on passing a bougie downwards through the artificial anus, it went down for some distance, but its point could not be felt anywhere in the perineum.

There were two remarkable points in connection with this case; namely, that the artificial anus grasped a finger tightly when introduced into it, by a sphincter-like action; and the mucous membrane of the intestine was everted during defecation, and pushed out the feces, as it were, as may be seen in the horse.

In his *Traité des Maladies Chirurgicales*, Boyer has recorded a successful case of colotomy by Littre's method, performed at Brest, in October, 1793, by M. Duret, a naval surgeon. The child was seen, in good health, eleven or twelve years afterwards.

ART. 166.—*Fissure of the Rectum.*

(*The Lancet*, February 16, 1867.)

In a very interesting paper on fissure of the rectum, read before the Medical Society of London, by Mr. Alfred Cooper, he said that the most common form of disease of the rectum, and for which the largest number of patients require operation, is fistula in ano; next in order of frequency is internal hæmorrhoids, and third on the list is fissure of the rectum. Out of the 1286 patients admitted at St. Mark's Hospital in 1866, 138 suffered from fissure: of these, 82 were without complication, 20 were coexistent with internal hæmorrhoids, 9 with external hæmorrhoids, 3 with polypus, 3 with stricture, and one, in a boy of five years of age, with proidentia. After stating that this affection was often overlooked by many surgeons, he insisted on the necessity of careful examination [he laid particular stress on digital examination in preference to that by the speculum], not only for the sake of a correct diagnosis, but also to ascertain the existence of complications. He observed that the disease was not uncommonly dependent on other morbid conditions of the bowel, and referred more

especially to polypus, which he illustrated by the case of a lady who had been twice operated on for fissure; the first operation failed in consequence of a polypoid growth having remained undiscovered, but the patient recovered after the second operation, when this growth was removed. After giving a careful description of the symptoms of fissure, the author proceeded to detail the history of several patients upon whom he had operated where complications existed, and remarked that unless the polypi and hæmorrhoids were removed the operation would be a failure. He briefly alluded to the symptoms that should lead the surgeon to suspect the existence of fissure, laying particular stress on the acute and long-continued pain after defecation. He was of opinion that in the early stages of the disease, where it had not existed more than six months, it could be successfully treated without operation by regulating the bowels and applying locally an ointment composed of one scruple of calomel to an ounce of lard. That in cases of longer standing, as a rule, operative interference was necessary. That in operating, three courses were open to the surgeon—forcible rupture, free incision, and limited incision. He discarded the forcible rupture as barbarous and offering no advantage, and preferred the free to the limited incision, as in the latter case the wound heals more slowly, and in some instances it altogether fails to effect a cure.

Mr. Rogers Harrison complimented the author on the valuable and practical paper he had read, but said that a plan of treatment sometimes of much use in such cases had not been alluded to—he referred to that by *pressure*, a cone of metal gilt being introduced into the rectum. By this mode slight hæmorrhoids, when present, are often cured at the same time. He preferred, however, the knife to other plans of treatment.

Mr. Henry Smith had only met with two cases, of which one was in his own practice, in which the operation had failed; and in these the symptoms were temporarily relieved. When an incision is made it should, without doubt, be a free one, and a few days' rest afterwards is usually sufficient. In slight cases he uses the gray oxide of mercury ointment; or when, from special causes (as in a case of diabetes which was narrated, and in which he also applied the nitrate of silver twice a week), he does not think it right to operate. But he prefers an operation in almost every case. He agreed with the speakers that the disease is frequently overlooked, and that the symptoms are attributed to wrong causes.

Mr. Canton referred to several conditions which may be indirectly caused by fissure of the rectum—as, for example, chronic constipation, which is sometimes produced by the relaxed state of the mucous membrane higher up the rectum, induced by, and which may remain after, the removal of the fissure. In the case of a clergyman, he twice removed considerable portions of the mucous membrane by tying; but subsequently still larger portions came down, which he was obliged to remove by the *écraseur*. He thought it desirable after these operations to keep the bowels confined for a considerable time by the administration of opium and chalk.

Mr. Mason said that the essential point is to keep the parts quiet after the operation, but that long-continued confinement to bed is not necessary. He pointed out the fact that fissure of the rectum is common after childbirth, though often overlooked by accoucheurs.

Mr. Weeden Cooke bore testimony to the simple character of the operation and to its efficiency, but said that where such fissures have indurated edges from a syphilitic taint, the case must be treated constitutionally.

ART. 167.—*On Simple Fracture of the Ischium; a Pathognomonic Symptom of this Injury.*

By Dr. DEVALZ.

(*Union Médicale de la Gironde*, December, 1866.)

Examples of fractured ischium are rare. Malgaigne could not collect more than six. The diagnosis also of this accident, when there is not much displace-

ment of the parts, is very difficult. In the cases of Percy and Papavoine, the diagnosis was not at first made out.* In the following abridged case the same difficulty occurred. M. Devalz, at the first examination, thought that there was only a contusion:—

A man sixty-one years of age was suddenly thrown from his vehicle on to a rough and stony ground. He was not able to raise himself without the aid of a peasant. When he recovered his understanding he complained of not being able to move his left leg, or to sit upon his couch. There was a sharp pain in the hip and upper part of the left limb, which he was incapable of moving. M. Devalz and one of his colleagues thought at first that it was a simple contusion. But, after three days, the patient requested another examination, during which the ischium was touched, and an exclamation from the patient proved that this bone was the seat of acute pain. M. Devalz was enabled to prove the existence of the following symptoms:—

The pain lessened in intensity towards the hip and upper part of the thigh, although the patient pointed out those parts as being the most severely affected; and it was very acute at the level of the ischium, where the least amount of pressure provoked a sharp cry. Limited below by the tuberosity, the seat of pain extended upwards as high as the greater sciatic notch, and nothing could be felt in the external iliac fossa, the hip joint, or the pubis. The projecting portion of the tuberosity was seized between the fingers, and when shaken an abnormal backward and forward movement could be made out, and at the same time repeated crepitation, of which the patient himself was conscious. Crepitation could also be produced by moving the thigh upon the pelvis, and by taking the crest of the ilium in one hand and the ischiatic tuberosity in the other, and working these two parts in contrary directions; the patient could not raise himself into the sitting posture, the thigh could not be lifted, nor could he bear upon it when in the vertical position.

Passive movement was painful. There was no lesion of the rectum or bladder, and no displacement of the bones of the pelvis could be discovered by rectal examination. Finally, formication was frequently felt every day in the thigh and leg—an indication that the fragments were in contact with and irritating the sciatic nerve.

M. Devalz diagnosed a fracture which below had separated the tuberosity of the ischium from the commencement of the ascending ramus, and which was near to the greater sciatic notch above. A broad bandage was applied, which embraced the buttock, and was kept in its place by a girdle around the waist, and two straps firmly fixed below; but as this apparatus could not be easily borne, M. Devalz was obliged to content himself with having the patient confined to perfect rest upon a very hard bed. After three weeks the fracture was united, and the patient began to sit without pain. He has been seen since. He walks without limping, although he often suffers in the injured hip, during rainy seasons.

The symptoms which in this case marked the fracture of the ischium may be thus recapitulated: pain more severe in the ischium than in other parts, intensified by pressure upon the bone; abnormal mobility; crepitation easily made out and repeated; total incapacity to sit; immobility of the lower limb in the injured side; sometimes formication along the course of the sciatic nerve.

M. Devalz insists upon the fact of the patient's being unable to sit or to support himself in the sitting posture. He appears to consider this a pathognomonic symptom. It may be admitted that the occurrence of this sign will be very useful as a help to diagnosis. But if this case be compared with those which have been reported by Maret, Percy, and Jobert, it may be seen satisfactorily that pain over the ischium, mobility, and, above all, crepitation, seem to be much surer symptoms.

ART. 168.—*On Thoracentesis in Children.*

By M. GUERSANT.

(Bulletin Général de Thérapeutique, October 13, 1866.)

M. Guersant states that the effusions into the pleura consecutive to injuries of the chest and fractured ribs are quickly absorbed in children, but that the liquid effusion dependent upon inflammation of the serous membrane may in young subjects, as well as in adults, necessitate thoracentesis both in acute and in chronic cases. The operation is indicated when the amount of effused fluid cannot be diminished by internal remedies, and when there is a tendency to asphyxia.

In those rare cases where the fluid is circumscribed and confined to one part of the chest, the operation must of course be performed at that spot where there is dulness on percussion and an absence of respiratory murmur; but when the effusion is general, and the whole of the space between the costal and pulmonary pleura is filled with fluid, the surgeon generally selects some particular spot for puncturing the chest. M. Guersant generally plunges in the instrument above the superior border of the tenth rib on the left side, and the eighth rib on the right, and at the junction of the posterior one-third with the anterior two-thirds of the intercostal space.

The following is the method carried out by M. Guersant in operating for effusions into the chest. The instruments he uses generally are: A small curved trochar with a diameter of four millimetres and four centimetres in length, in shape like a tracheotomy canula, and supplied at its outer end with a flap of membrane which falls over its external orifice. 2. Tubes of vulcanized caoutchouc small enough to pass through the metallic canula. Finally, a syringe, which may be readily adjusted either to the canula or to any of the elastic tubes. The child having been laid upon its back, and held fast in that position, the skin over the spot selected for operation is stretched by a finger of the left hand, so that the cutaneous wound may not correspond to the deep-seated one; and the trochar held in the right hand with the concavity downwards, the piece of membrane at its outer orifice having been previously moistened, is passed through the skin, and curved round the upper border of the rib, with the point directed downwards into the pleural cavity so as to avoid wounding the lung in case the space between the osseous framework and the surface of the organ be narrow. The fluid is then drawn off; if the effusion be simply a serous one, a single puncture suffices to give exit to the fluid, the air at the same time being excluded by the flapping membrane attached to the outer end of the tube. When the cavity has been emptied, the tube is withdrawn, and the small wound, if covered, heals by first intention.

In chronic cases, where the fluid is no longer serous but purulent, repeated tappings are required, and if the pus be fetid, it is advantageous to inject into the pleural cavity tincture of iodine very much diluted, chlorinated water, or some modifying solution. M. Barth recommends the cleansing of the pus-bathed surfaces with injected water, in order to bring about adhesions more speedily. In these cases a permanent opening is necessary, and for this purpose the curved trochar is allowed by most surgeons to remain; but M. Guersant prefers the use of one of the elastic caoutchouc tubes, which, on account of its flexibility, excites no irritation in the chest, and does not, like the metallic canula, enlarge the wound. M. Guersant inserts the tube by passing it through the canula, which is then withdrawn. Over the external orifice of the elastic tube a piece of gold-beater's skin is tied, so that the pus discharged into the tube runs down into a *cul-de-sac*. When an injection into the chest is necessary, the surgeon first compresses the tube at a short distance from its end, an assistant removes the membranous cap, and the nozzle of the syringe is then inserted, and the solution carefully injected; when enough fluid has been forced into the chest, the extremity of the tube is placed into water, so that no air may pass into the pleural sac at the time the injected fluid is being discharged. The

tube is again compressed, after the injection has been removed, and its end again covered by the gold-beater's skin.

It is necessary to take care that that portion of the tube which is within the chest be not too long, so as to irritate the surfaces of the pleura, or prevent the gradual apposition of the surfaces, and thus retard cure. On the other hand, it should not be so short as not to reach the fluid to which it is required to give exit. M. Barth recommends that the tube should always be measured before its insertion, and that the length be carefully noted down. At first from six to eight centimetres may be allowed to remain in; but as the abnormal cavity diminishes in extent, which may be recognized by the small quantity of pus discharged, and a lesser amount of injection being retained, this length should be gradually reduced by withdrawing a small portion of the tube from the chest every day.

When the case progresses favorably, the discharged fluid becomes gradually clearer and diminished in quantity; at last a time arrives when no more than a few drops of pus are seen. The tube may then be removed.

ART. 169.—*Gonorrhœa in the Male.*

(*The Lancet*, March 16, 1867.)

Subjoined is a comparative view of the mode of treating a very common malady in several of our most important metropolitan hospitals:—

At *Guy's Hospital*, Mr. Bryant tells us that he finds no treatment so successful as the alkaline. He gives the tartrate of potash in scruple or half-drachm doses three or four times a day; and in cases that have passed through the acute stage, in which want of power exists, he combines the alkali with the potassio-tartrate of iron. In many cases of chronic gonorrhœa the tincture of the muriate of iron as a medicine acts very beneficially.

The treatment of clap by injections Mr. Bryant has found very unsatisfactory. He is now employing a concentrated solution of tannin in glycerine introduced into the urethra on a bougie at short intervals; and, up to the present, his experience speaks favorably for the practice.

London Hospital.—At this institution Mr. Maunder usually treats a case of uncomplicated gonorrhœa, at both the onset and subsidence of the attack, by a mixture, composed of copaiba, liquor potassæ, spirit of nitric ether, and camphor mixture, to be taken thrice daily; and a low diet with abstinence from malt and spirituous liquor. Tea, milk, water, and the like may be taken to any extent. Should the case run on to the acute inflammatory stage, a scruple of acetate of potash, with or without the eighth of a grain of tartar emetic and of morphia, for a dose is substituted, and is ordered to be taken every four hours, night and day if possible. Patients generally manage to take either four or five doses during each twenty-four hours. An occasional purge. No stimulants of any kind, but as much in the shape of diluents as the patient can be induced to swallow. Should the case degenerate into a gleet, and scalding on micturition have disappeared, twenty drops of the tincture of steel, thrice daily, is the remedy employed. In private practice Mr. Maunder prefers to treat a recent attack of gonorrhœa by oft-repeated injections of sulphate of zinc, not omitting also to apply *general principles* suitable to an inflammatory disease.

St. Bartholomew's Hospital.—In Mr. Callender's practice cases of acute gonorrhœa in the male are treated with injections of sulphate of zinc (two grains to one ounce of water); if there be much local inflammation the use of the injection is suspended for a time, and the inflammation is allayed by means of warm fomentations, warm baths, and the internal administration of opium in some form or another, or by the use of a suppository of morphia introduced into the rectum. During the treatment the general health is considered according to the requirements of individual cases, and under all circumstances medicine is given to maintain free action of the bowels. Diluents are prescribed, and the urine rendered as little irritating as possible. The ordinary diet, if moderate, is not interfered with. The patients are ordered to keep themselves clean, and to bathe away discharge, from suppurating bubo or from urethra, ten or twelve

times daily. The end of the penis, if covered at all, is only loosely so, that discharge may find easy outlet and not accumulate. It is almost invariably necessary to deal with phimosis, when present, by operation, and this for the sake of cleanliness.

Inflammation of the testicle is set right by support (chiefly supplied by the local application of a large linseed poultice, which serves also as a kind of fomentation), by opium, and by the recommendation to remain in the recumbent position for a few days. Enlargements of the glands in the groin are treated with lead lotion and rest (if attainable). If the parts around them inflame they are poulticed, and, if it be absolutely necessary, they are opened by free incision (the line of cut being, without exception, vertical), and are not allowed to break of themselves.

King's College Hospital.—For gonorrhœa in the male the plan of treatment found most generally successful by Mr. Wood is—

In the acute stage—1. To commence the treatment by prescribing abstinence from wine, beer, and spirits of all kinds, and from stimulating food. 2. Then to administer a saline aperient, or a drachm of compound jalap powder, or a drachm of jalap and calomel (if the patient be of bilious habit), at intervals of three or four days or a week during the treatment. 3. Then the administration of liquor potassæ, or bicarbonate of potash with camphor mixture, or the infusion of pareira, three times a day, with the abundant use of diluent drinks, such as toast-water, cold tea, barley-water, or linseed-tea. 4. In a day or two after the commencement of the discharge, the frequent injection of a weak lead lotion made with glycerine, two ounces to each half-pint. This is continued throughout the acute stage. In no instance has it been considered to be the cause of swelled testicle. 5. In swelling of the testicle, the recumbent posture or mechanical support, with hot fomentations and calomel and opium to relieve pain. In cases attended by severe pain, or where prompt relief is urgent, a small puncture into the distended tunica vaginalis and epididymis is at once followed by a diminution or entire cessation of pain. A little blood and serum usually issues from the puncture. In no case has this practice been followed by a bad result. Mr. Wood does not puncture the testicle itself, considering that the chief seat of the swelling in these cases is the epididymis and tunica vaginalis. In one case, where the gland had been punctured by a surgeon, he observed an adhesion formed between it and the skin, giving some annoyance and inconvenience to the patient. 6. To allay chordee, camphor-and-henbane pills are used, or, in severe cases, morphia or chlorodyne, aided by the local application of iced water, lead lotion, or evaporating lotion.

In the chronic stage—1. While the discharge remains thick and profuse, he uses the copaiba emulsion, with dilute sulphuric acid or copaiba capsules, and frequent injections of sulphate of zinc, alum, or nitrate-of-silver lotion; recommending particularly the complete washing away of the discharge by a syringe-ful of water, so that the injection may be applied directly to the inflamed part. 2. As a change of remedy in obstinate cases, powdered cubebs in drachm doses. 3. In sluggish cases with gleety discharge and general debility, he uses tonics and mineral acids, and especially the tincture of sesquichloride of iron, twenty minims three times a day, with water; and if the discharge becomes gleety or thin, he has found great benefit from the injection of a weak solution of chloride of zinc, and also from the perchloride of iron, mixed with glycerine and water in each case. The two latter are his chief resource in cases of gleet not depending on stricture, varied by the application of the same substances by the use of the bougie of cocoa-butter, or with matico.

St. Mary's Hospital.—Mr. Gascoven has found that, in the very early stage of gonorrhœa, before the urethra is much inflamed, and the discharge and scalding are still slight, weak astringent injections, frequently repeated, will generally subdue the disease in a few days. When, however, the inflammation has become severe, with profuse discharge, ardor urinæ, chordee, etc., he does not use injections, but considers copaiba to be the most valuable remedy. This drug he administers in the form of capsules, beginning with small doses, and gradually increasing them until a maximum quantity of from forty to sixty drops of the balsam is taken during the day; this large dose is persisted in for two or

three days, and then rapidly decreased. If the curative action of the drug be not experienced within ten or twelve days, it will fail to effect a cure. Mr. Gascoyen has frequently seen the disease yield to this treatment, and it gives almost immediate relief from ardor urinae and irritability of the neck of the bladder; should these symptoms be very distressing and the chordee severe, the medicine may be most usefully supplemented by suppositories of soap and opium.

The effect of the copaiba upon the digestive organs should be carefully watched, and if nausea or purging be occasioned the quantity must be at once diminished. The eruption which is sometimes produced by the use of this medicine is, in Mr. Gascoyen's experience, very rare; he considers it to depend upon an idiosyncrasy on the part of the patient, or to his state of health, as it is generally caused by a few small doses of the drug.

After the violence of the attack has subsided, or when the treatment by copaiba is insufficient, weak injections may again be employed, with drachm doses of cubebs if the discharge be very obstinate, and then quinine; tincture of iron and other tonics will often prove of service. Meat and an unstimulating nutritious diet should be given throughout, and the general health maintained, lest the discharge become chronic, which is often most persistent and difficult to cure. In many cases wine may be allowed from the commencement, and where the discharge shows a tendency to become chronic it will often be found of great service, and especially in persons of a scrofulous habit. Each individual case, however, requires its treatment modified according to the condition of the patient.

The treatment by salines and depletory remedies in the early stage of gonorrhœa Mr. Gascoyen has found not only useless in controlling the inflammation, but positively injurious, by allowing time for the disease to run its course unchecked before the employment of more efficient means. The so-called "abortive" treatment—that of injecting strong solutions of nitrate of silver into the urethra to destroy or cut short the disease at its onset—he has scarcely ever known to succeed; but has seen attacks of gonorrhœa much aggravated by it, and in a few instances dangerous symptoms followed its use.

Charing-Cross Hospital.—Mr. Barwell has for years past treated gonorrhœa as a simple non-specific disease, avoiding copaiba, which, by disordering the stomach and causing loss of appetite, depresses the health, and is apt to increase or lengthen the disease. In case of a first attack, in which inflammation runs high, a purge, hot bathing, and an alkaline medicine, either diuretic or aperient as may be indicated, followed by an injection of sulphate of zinc—two grains to the ounce. Second or subsequent attacks may be treated without such preparation by injection, free action of the bowels being secured, if necessary, by medicine. If the patient apply on the first day of the discharge showing itself, a week may often suffice to check it. More chronic cases may be advantageously treated with tannic acid—three or four grains to the ounce; and in order that the fluid may remain longer in contact with the mucous membrane, it may be thickened with starch or sugar. Mr. Barwell has not found that orchitis follows the use of injections of the above strength more frequently than it succeeds to gonorrhœa not locally treated; and stricture is certainly a rarer sequela to such treatment than to a clap allowed to run on for weeks or months. The slight but continuous discharge of a gonorrhœa become chronic is often difficult of cure. Turpentine, either Chian turpentine or Canada balsam, with black or Cayenne pepper, is frequently useful. Tincture of steel and tincture of capsicum often avails. As a pepper, cubebs will have a similar effect; but it is not better, and is more clumsy, than the above-named sorts. The most certain and efficacious treatment is by an ointment containing from three to five, and even to ten, grains of nitrate of silver to the ounce of lard. A small bougie smeared thickly with the ointment is passed from half an inch to an inch and a half down the urethra, and left there for half a minute or more; and this should be repeated at least every other day. In general, commencing with the mildest ointment, one need not increase the strength beyond five grains to the ounce. In only one very obstinate case was it used ten grains to the ounce; but the patient got well without a bad symptom.

University College Hospital.—Mr. Christopher Heath uses injections from

the first, but modified according to the circumstances of the disease and of the patient. If the patient is seen in the premonitory or very early inflammatory stage, Mr. Heath believes that the disease may be cut short much more effectually and safely by a strong lead lotion (liq. plumbi diac., ℥j, aquæ, ℥viij) than by solutions of nitrate of silver. In the ordinary acute form of the disease, injections of warm water and weak lead lotion, together with bicarbonate of potash and henbane internally, are found to relieve the symptoms, and are followed up by a sulphate of zinc injection when the acute symptoms have subsided. Although beer is interdicted, the patients are permitted a glass of weak gin and water at night, and their diet is not interfered with. Copaiba is rarely given, and only in the cases where the discharge continues profuse, though thin, some time after the inflammatory symptoms have subsided.

Complications.—Chordee Mr. Heath finds to be effectually relieved by the application of extract of belladonna and glycerine along the under surface of the organ, combined occasionally with a sedative pill (opium or henbane) at night. Orchitis in the acute stage is found to yield readily to antimony in combination with sulphate of magnesia; and when there is much œdema, a puncture is made into the tunica vaginalis, where, under these circumstances, there is a certain amount of effusion. In the later stages, strapping, or the use of mercurial ointment, is found to remove any remaining enlargement.

In cases of gleet, Mr. Heath makes a careful examination of the urethra both with bougies and with the endoscope, in order to discern the exact nature and situation of the disease. If, as frequently happens, a distinctly diseased surface is discovered, a strong solution of nitrate of silver is applied topically with the best results; if the disease appears to be more general, the use of astringent injections, the passage of a large metal bougie, and the internal administration of steel yield satisfactory results. Mr. Heath believes that in many chronic cases the so-called gleet discharge is nothing more than the ordinary secretion of the mucous follicles of the urethra, increased by the over-assiduous manipulations of the patient, and that this subsides as soon as the attention is diverted from it.

Middlesex Hospital.—In the early stage, when the inflammation is acute, Mr. Hulke prefers an injection of acetate of lead, frequently repeated, gives a free purge—commonly compound jalap powder—and forbids beer and spirits. In the more chronic condition, he often uses an injection of one grain of nitrate of silver to eight ounces of water, the general rule being to use weak injections rather frequently, but stronger ones at longer intervals. In old gleets he prescribes occasionally copaiba or cubebs, but more frequently the tincture of sesquichloride of iron.

Buboes, when seen before suppuration has commenced, are leeches, but, when suppuration impends, are painted over a small spot with a strong solution of iodine, which either effects their resolution or more often hastens their pointing. They are always opened by a vertical cut. Sinuses and induration are treated by a compress and spica bandage.

Consecutive orchitis, at first, when the symptoms are acute, is commonly treated by a few nauseating doses of tartar emetic with Epsom salts; and generally on the second or third day the testis can be strapped. This should be done with the patient recumbent, and before the strapping is applied he should gently compress the testis with his hands, in order to empty it and the scrotum as much as may be of blood. This plan is very preferable to the erect posture, in which dressers commonly strap the testicle.

ART. 170.—*On the Cure of Gonorrhœa by Mild Remedies.*

By Dr. DYES, Verden.

(*Deutsche Klin.*, 43, 1866; *Schmidt's Jahrbücher*, No. 2, 1867.)

Dr. Dyes complains of the habit so common among many practitioners of prescribing balsam of copaiba at the commencement, or at least during the inflammatory stage, of gonorrhœa. Copaiba, it is known, does harm at the

commencement of gonorrhœa; it does but little good after the inflammatory stage has passed off. Dr. Dyes cites some cases in which immoderately large doses of the balsam taken by the patients, it is true in a very arbitrary manner, caused gastritis, nephritis, and even death. It is almost incredible, how practitioners, who throughout the whole course of gonorrhœa order abstinence from everything likely to cause irritation, can, in direct opposition to this, prescribe a medicine so irritating to the kidneys and urinary passages as balsam of copaiba.

From Dr. Dyes' four years' experience, the best way to treat gonorrhœa consists in first of all subduing the inflammation of the urethral mucous membrane by soothing, mucilaginous, and cooling medicine, combined with a spare diet and rest; and directly after the removal of this inflammatory condition an injection is applied to the urethra of zinci sulph. gr. iij, aquæ ʒss. It is put forward as a very important rule that an injection should never be given twice on the same day. At first the injection is not repeated before the third day. Six to nine injections are generally sufficient. If the injection be well tolerated, the proportion of sulphate of zinc may be gradually increased by one or two grains, and may be used more frequently.

ART. 171.—Case of Phosphatic Calculus in the Male Bladder, with a Nucleus of Bone: probably a Sequestrum detached from the Innominate Bone.

By HENRY THOMPSON, F.R.C.S., Surgeon Extraordinary to H.M. the King of the Belgians, Surgeon to University College Hospital, and Professor of Clinical Surgery.

(*British Medical Journal*, January 5, 1867.)

Mr. Thompson places on record a brief account of the following case, because, as far as he is able to ascertain, there is no precisely similar example described among those annals of surgery which are familiarly known and consulted for rare or remarkable cases. The history is as follows:—

"F. B., aged forty, a muscular and healthy-looking man, was sent to my care at University College Hospital by Dr. R. Uvedale West, of Alford, Lincolnshire, in the end of June, 1865, for some urinary affection of two years' standing.

"He was in bed at my first visit to him on the 27th of June, and I commenced by examining the urethra. I found, situated at three-quarters of an inch from the external meatus, some narrowing of the canal, apparently congenital, which prevented the passing of a middle-sized bougie. The narrowed point was at once divided by a short *bistouri caché*, and a sound introduced into the bladder. I instantly struck a stone; and, substituting a flat-bladed lithotrite for the sound, crushed two or three times a phosphatic calculus, about three-quarters of an inch or so in diameter. At my next visit on the 30th of June, three days afterwards, finding the patient perfectly comfortable, and that he had passed a fair quantity of fine *débris*, I again introduced the lithotrite, and was conscious of grasping a substance unlike, in the sensation it communicated to my hand, to stone, since it made the two blades adhere to each other in an unusual degree. I mentioned the circumstance at the moment to the surrounding students; and during the process of withdrawing the lithotrite, felt that some rough matter was adhering to its blades, which could not be detached, and which rendered it necessary to draw out the instrument with extreme care and slowness. Having done so, I remarked to the bystanders that the contents of the blades were much more tenacious than stone, and that the material should be hereafter analyzed; but I did not then see anything to lead to the supposition that it was anything more than some form of calculous matter.

"The next two days, he passed phosphatic *débris* freely. On the fourth day, I found him with partial inability to void urine; and, recognizing the presence

of a fragment in his urethra, I introduced a pair of long straight forceps, and slowly but easily extracted a fragment, which was instantly recognized by those around, as well as by myself, as a fragment of bone. On now examining for the first time carefully the unusual-looking *débris* withdrawn at the previous sitting, we identified other bony fragments, but of smaller size. Happily, the detention of this one in the urethra saved it from the demolition which certainly awaited it from the jaws of the lithotrite, had it remained in the bladder. I now questioned the patient closely as to his habits and history, supposing it possible that a piece of bone might have been purposely introduced, perhaps as treatment of the above-mentioned stricture at the orifice of the urethra; but, after sufficient investigation, I could entertain no such suspicion. Turning the patient on his left side, I then saw, for the first time, large cicatrices of former wounds or abscesses about the situation of the right innominate bone; and we learned the following history:—

“He had first suffered severely in the right hip seventeen years ago; he was lame for more than a year, and experienced much severe pain about the right hip, groin, and thigh. After this, an abscess broke externally. He was then confined to his bed some weeks, but afterwards walked about, and was tolerably well. A similar attack took place three or four years after the preceding one, and during a few years subsequently he was subject to the formation of abscesses, and to the pain and lameness resulting. After that, he was tolerably free for some time. Two years ago, he was laid up again for several weeks with pain and lameness, but without the formation of abscesses. He was confined to his room for eight or nine weeks, and gradually recovered; but was then attacked for the first time with severe pain and frequency in passing urine, shortly after experiencing the ordinary symptoms of stone in the bladder, which continued up to the present moment. About a year ago, however, a small stone, which obstructed the urethra, was removed by Dr. West at the time.”

Mr. Thompson thinks, after this detail, it will be difficult to come to any other conclusion than that the origin of the calculous formation was the existence of disease in a part of the os innominatum, resulting in the necrosis of a small portion; that this portion ultimately exfoliated and detached itself, to be extruded, not externally by the surface of the body, not by means of abscess which should follow the usual course along the tracks of muscles or vessels, but by one which communicated directly with the bladder; so that the sequestrum made its way into that cavity, and formed the nucleus of the phosphatic stone for which, about two years subsequently, he operated upon the patient. If so—and he cannot see any reason to doubt it, nor can he readily account for the occurrence of bone in the bladder on any other theory—the case is one not only of great rarity, but of extreme interest in regard of the possible course which a sequestrum, and the pus which in greater or less quantity must attend its progress, may take, and be safely eliminated from the body. In cases of diseased spine and hip, the attendant matter has been known to find its exit by the bowel, and also by the bladder. Bullets and splinters of bone have entered the male bladder, as the result of gunshot injury; and this not unfrequently. Again, in the female sex, but much more rarely, the bones of an extra-uterine foetus have gradually made their way into the bladder, and have been removed from it by the surgeon. The present instance, however, of safe elimination of bone by the way of the male bladder, adds one more to the many examples of successful issue to those natural processes, extremely slow in their action, through which the human organism accomplishes results which from any surgical proceeding, however skilfully conducted, would be impossible.

ART. 172.—*Case in which, after Symptoms of Stone in the Bladder had been present for months, and a small Calculus had been detected on Sounding, none was found on Cutting into the Perinæum, where an Abscess had formed.*

Under the care of Mr. ERICHSEN.

(*British Medical Journal*, May 18, 1867.)

This case deserves to be placed on record as one which is almost unique of its kind, and as a fit pendant of the one mentioned in Mr. Cooper Forster's work on the *Surgical Diseases of Children*. The rational symptoms of stone in the bladder, as will be seen from the following history, the particulars of which were kindly communicated to us by Mr. Poore, house-surgeon, had been present for months; and, on sounding the child after his admission into hospital, unequivocal evidence had been obtained of the presence of a stone in the bladder, from the distinct click heard by several persons besides Mr. Erichsen himself. The formation of an abscess in the perinæum seemed again to point to impaction of a stone in the prostatic portion of the urethra, and to an attempt at what has been termed the "natural cure of stone," of which an instance was lately brought before the notice of the Pathological Society by Mr. Henry Thompson. A calculus, of the size and shape of a white-heart cherry, made its way outwards in a child, through the formation and bursting of an abscess in his perinæum. In Mr. Erichsen's case, the operation performed was not that of lithotomy; but merely consisted in cutting down upon the perineal abscess, with the view of at once extracting the stone supposed to be impacted there. As none was found at that spot or in the bladder, and as, since then, all symptoms of vesical irritation have entirely passed away, the conclusion must be that the stone must have been voided *per urethram* with the urine, and have escaped detection.

Joseph Chaplin, aged three, a pale, sickly-looking child, was admitted on February 10th. His father stated that, since the end of last year, the child had had a difficulty in passing his water; he would cry and pull on the end of his penis, and when he relaxed his hold, the water would come away "with a gush." As the last drops of water were being passed, the pain apparently increased, as the child then cried more loudly than ever. No blood was ever noticed with the urine. The child often complained of pain in the back; and, since the difficulty in making water first showed itself, he had fallen off a good deal.

On February 15, the child having been put under the influence of chloroform, Mr. Erichsen passed a No. 4 sound into his bladder, and detected a small stone, against which the instrument could be heard plainly to strike. No further step was taken that day; and, as the child looked in a very unfavorable state of health, Mr. Erichsen decided on having him examined by one of the physicians before operating on him. The report of the physician having pronounced the child to be able to bear an operation, he was brought into the operating theatre on March 8th; but Mr. Erichsen, failing to detect the stone with the sound or staff, the operation was deferred. As it had been felt and heard most undoubtedly on February 15th, the question arose, what had become of it. The child passed all his urine in bed, so that if it escaped *per urethram* the nurse in attendance could hardly have failed to detect it. A hard lump (possibly the stone) could be felt near the bladder, by introducing the finger into the rectum.

March 11th.—There has been no remission of symptoms. The child continues to look ill and to be in much pain. There is some preternatural fulness and hardness in the perineum, and the child cries out loudly whenever this part is touched. There is a slight mucous discharge from the penis.

March 13th.—The child continues in the same state. There is some mucopurulent discharge from the urethra, and the hardness, fulness, and tenderness of the perineum continue.

Mr. Erichsen having determined on sounding the child again, he was placed

under the influence of chloroform, and a No. 4 sound with a small curve introduced. The sound did not enter the bladder; but, passing over a roughened portion of the urethra, entered a cavity near the neck of the bladder, evidently an abscess. At the same time, there was an increased amount of discharge from the urethra by the side of the sound. No stone could be detected in the cavity; but, nevertheless, Mr. Erichsen determined to make an incision into the perineum. A grooved staff was accordingly introduced, and an incision made in the middle line of the perineum, passing through the abscess and into the prostatic portion of the urethra. There was a considerable discharge of pus and cheesy matter mixed with blood. No stone could be felt either in the abscess or the bladder. There was free oozing from the wound.

May 10th.—The child has improved considerably in his general health, and has gained flesh and strength. The incision in the perineum has healed up, and the urine is voided *per urethram*. There are now no symptoms of irritation about the bladder.

ART. 173.—*Impervious Stricture of Anterior Part of Urethra and Urinary Fistula cured by the formation of Artificial Urethra.*

Under the care of Mr. PRIDGIN TEALE.

(*The Lancet*, May 11, 1867.)

In the following case, which presented difficulties not very frequently met with, Mr. Teale carried out a plan of operation suggested to him by his colleague, Mr. Wheelhouse, during the consultation upon the case.

Joseph H., aged thirty-six, was admitted into the Leeds Infirmary on December 30th, 1866. Two years before he suffered from a phagedænic chancre, which destroyed the under half of the glans penis, and, extending some way down the urethra, produced stricture of the meatus and anterior two-thirds of the urethra. This stricture was kept pervious until four months ago by occasional use of the bougie, and then became so much contracted that an instrument could not be passed, and all the urine escaped by a fistula at the side of the penis.

During January frequent attempts were made to tunnel through the urethral cicatrix, but without success.

January 31st.—Whilst Mr. Teale was considering the propriety of opening the urethra behind the stricture, and, by stitching mucous membrane to skin, of securing thereby a permanent opening even at the inconvenience of producing hypospadias at the root of the penis, a suggestion made by Mr. Wheelhouse appeared to solve the difficulty, and was at once carried out. The strictured urethra, extending backwards two inches from the meatus, could be readily felt as a hard cord, beyond which the remainder of the canal appeared to be perfectly natural. The loose skin covering the penis having been reflected from the corona glandis backwards, like an inverted glove, until the anterior two-thirds of the penis was completely denuded, the healthy urethra was opened behind the stricture, and the stricture and cicatrix were slit up as far as the meatus. A catheter was then introduced into the bladder, and laid in the newly-made groove in the strictured urethra. Lastly, the reflected skin was drawn forwards over the denuded penis and catheter, and stitched to the base of the glans.

February 4th.—A narrow ring of the preputial skin has sloughed, and is partially detached.

12th.—Catheter removed.

March 7th.—Middle-sized bougie passed. Patient returned home.

April 23d.—His medical attendant reports his condition as follows: "He passes urine in a good stream through the opening you made, and can easily pass No. 6. All the fistulæ are healed, and the man's health is quite restored."

ART. 174.—*Cancer of the Bladder: Hæmaturia: Death.*

Under the care of Dr. RAMSKILL.

(British Medical Journal, June 1, 1867.)

The following case is reported by Mr. McCarthy:—

J. S., porter, aged sixty-five, was admitted into Davis Ward, London Hospital, January 8th, 1867. He stated that, until within the last two years, he had never known illness; that he then began to pass blood with his urine, in consequence, as he believed, of having strained his back severely while lifting a heavy weight, and that he had continued to do so at varying intervals of time ever since. He suffered no pain, but felt weak. At the time of his admission he was remarkably anæmic in appearance, but otherwise seemed very well.

In answer to inquiries, he stated that he never had any stoppage in the stream while voiding his urine, and that the urine was more deeply tinged with blood towards the end than at the beginning. He added, that on three or four occasions a clot of blood had become impacted in the urethra, so as to necessitate the use of a catheter in order to remove it.

Dr. Ramskill said that, judging from the age, appearance, and symptoms of the man, he thought there was probably malignant disease of the bladder, but that as the long-continued hemorrhage would of itself account for his blanched appearance, it was possible that a vesicle calculus was causing all this mischief, and that to stop this exhausting hemorrhage was the first thing to be done. For this purpose he ordered half a drachm of bitartrate of potash three times a day.

He said that he did not know how this drug acted, but he had repeatedly proved the efficacy of it in hospital and private practice; and in two-drachm doses it was equally effectual in checking bleeding from hæmorrhoids. He predicted that in the present case the urine, which was then a deep purple, would, within thirty-six hours, have regained its normal appearance.

The next morning, after the third or fourth dose, the urine was clear, and without the slightest trace of blood. As the medicine purged rather severely, it was omitted, and ten grains of bitartrate of potash in an ounce of decoction of cinchona was substituted.

January 16th.—Mr. Couper, at Dr. Ramskill's request, sounded for stone. None was detected; but the point of the sound was felt to pass over some rough surface, as if the muscular coat of the bladder were hypertrophied. The urine was twice examined microscopically, without anything definite being discovered.

January 19th.—The hemorrhage recurred, but was again checked by the bitartrate. He now began to complain of shooting pains in the sacral region, which were relieved by the use of belladonna plasters.

From this time he became evidently weaker, preferred to lie in bed, and at times was in a semi-comatose condition. During the last week of his life he seemed to be in intense agony immediately before and after micturition.

He died comatose on February 12th.

The post-mortem examination was made by Dr. Sutton, pathologist to the hospital. All the internal organs were extremely anæmic. The left ureter was filled with fluid, and distended to about the size of a man's forefinger throughout its entire length, from the kidney to the bladder. The left kidney was atrophied, and almost altogether converted into a small cyst.

The right kidney was enormously hypertrophied.

On opening the bladder it was found to be filled with coagulated blood. On the left side, just above the prostate gland, and extending thence to the orifice of the left ureter, which was completely occluded by it, was a growth which appeared to have its origin in the substance of the bladder. The surface of the growth, which corresponds to the internal surface of the bladder, was evidently in an ulcerating condition, and from this the hemorrhage had probably taken place. The external coat of the bladder was much stretched by the growth, which was as large as a small pullet's egg. All the other organs were healthy.

ART. 175.—*A Case of Fungus Hæmatodes, in a patient six years of age, developed in a Subcutaneous Lymphatic Gland on the Margin of the Temporal Fascia.*

By BIRD HERAPATH, M. D., London, F. R. S.¹

(*The Lancet*, January 12, 1867.)

The following case is related by Dr. Herapath:—

"Mrs. B. consulted me, in the latter part of 1864, respecting her little daughter, C. J. B., who had had spina bifida in the lumbar region—of course congenitally. The little patient was at that time about four years old. The tumor was small, about the size of a walnut; it had not altered in size. The skin was thin and transparent, and the tumor had not interfered with her movements from the first, as she was able to walk at sixteen months old. It had burst from accidental violence about six months before I saw it, and at that time hemorrhage took place, but ever since it has wept or discharged a watery fluid; at times this would dry up, then the sac would refill and discharge itself again. Her mother said that the tumor affected her head, and was often the cause of alarming symptoms; these were severe headaches. At these times she shunned the light and disliked noise; but there were no convulsions at any time. She could not even go to church because of the noise of the organ; yet she liked vocal music, and instrumental also, if not too loud. She was generally sprightly and lively in character. Slight internal strabismus existed at the time of her first visit to me, and had only been noticed from the date of the accident. These head symptoms were generally noticed at those periods when the lumbar cyst was refilling and exerting pressure on the cerebro-spinal fluid, but no paralysis of either extremity had ever been observed. I was inclined to attribute these cerebral symptoms to the usual irregularities in diet attendant upon the indulgencies always allowed to children with chronic and apparently incurable disease, and treated her accordingly for that paroxysm which had induced the parents to send for me.

"In the month of August, 1865, this little patient was again brought to me; and then it was on account of a small glandular swelling which had shown itself at the anterior and superior margin of the left temporal muscle. It was as large as an almond when decorticated, but destitute of pain, and situated above the temporal fascia. It was *distinctly movable*. At that time I was disposed to think it of a strumous character, though, if so, the position was unusual, and no other glandular tumors existed.

"I saw her again on the 18th of September, 1865; and in one month it had increased in size, and was then as large as a walnut, but showed no appearance of softening or suppuration. But at that time I strongly recommended its extirpation, as its appearance had become somewhat doubtful, to say the least of it.

"October 4th, 1865, was the last time I saw the child for some months; the parents refusing to have any surgical operation performed, although the tumor was nearly double the size when last seen.

"On the 25th of April, 1866, she was again brought to me; and now it had grown to the size of a cricket-ball. And from this date no further doubt existed as to its nature. It was decidedly of a malignant character, and of course medullary sarcoma or fungus hæmatodes. The spina bifida was observed to decline and decrease in proportion as this cephalic tumor increased; and at length it disappeared altogether and healed up, so that at the time of her death the scar was very little apparent.

"In May last her mother caused a photograph to be taken of this little patient; but although the tumor at that time must have been much larger than a cricket-ball, yet, as the carte de visite was taken from the healthy side, nothing whatever of the disease is perceptible from this view. But in July it had grown

¹ Read at the Bath meeting of the Bath and Bristol Branch of the British Medical Association, on Dec. 13th, 1866.

to be larger than her own head, and was very irregular in form, distinctly nodulated, and the surface traversed by large venous trunks. It had attained its maximum at that time, and it occasioned considerable distortion of the left eye, by elongating the lids, and pulling them outwards.

"On July 31st we were hastily summoned, as alarming hemorrhage had taken place from a large vessel having given way; yet the ulceration was only superficial, and much hidden by the hair. During the first two weeks in August ulceration progressed extensively; a large ulcer opened upon the centre of the fungoid mass, and several of the secondary tubercles also made deep and ragged ulcers with everted edges; whilst early in August she became paralyzed on the right side, losing the use of both the arm and leg. During the last month frequent loss of blood occurred, blanching her body, and reducing her strength exceedingly. She never complained of much tenderness or pain, but an intense itching of the surface annoyed her. Occasionally she would scream out as if a sudden pain had seized her, but these attacks never lasted long; they were probably shooting or lancinating pains, but she was too young to describe them. During the whole of the last two months she was wholly confined to the bed, as the weight of the tumor (about 8 or 9 lbs.) prevented any other position than the recumbent one. Her power of deglutition failing her, as well as her speech, she became incapable of taking any nourishment, and during the greater part of last month she took nothing daily but a few tablespoonfuls of beer, which she had always relished better than anything else, and she gradually sank from exhaustion and anæmia, death closing the scene very tranquilly, without convulsions or loss of consciousness, on Aug. 31st, 1866. She was at the time of her death six years and two months old, and, for her age, tall and well-formed, being four feet two inches long when measured for her coffin.

"The treatment consisted throughout in the administration of sedatives occasionally to promote sleep and quiet, and the application of styptics to control the hemorrhage. The tincture of sesquichloride of iron, and slight pressure with dossils of lint, succeeded effectually. Occasional tonics, with quinine, were at first given, but latterly no medicine was employed. The offensive odor was controlled by the use of a dilute solution of hypochloride of soda as a local disinfectant, and when sufficient was employed it was perfectly effectual."

ART. 176.—*On Lithotomy.*

By MR. W. F. TEEVAN, F.R.C.S.

(*British and Foreign Medico-Chirurgical Review*, January, 1867.)

Mr. Teevan, in an interesting communication on Lithotomy, asserts that he has arrived at the following conclusions:—

1. When lateral lithotomy is performed, the stone ought always to be cut out, and not torn out.
2. That the median operation is not justifiable for the extraction of calculi which are upwards of half an inch in diameter; for if such sized stones be removed by that process, obliteration of the orifices of the ejaculatory ducts and permanent impotence will result.

In support of these propositions, among other arguments, Mr. Teevan adduces the following facts which have been experimentally ascertained:—

1. The prostatic urethra will only admit the terminal joint of the forefinger without laceration.
2. If the introduction of the forefinger be continued, the mucous membrane splits longitudinally as the second joint is passing through. The urethra splits in the roof because the convexity of the joint is pressed against that part. In lateral lithotomy the incision into the prostate prevents laceration of the roof of the prostatic urethra.
3. If a stone half an inch in diameter be extracted through a prostate in which no incision has been made, the mucous membrane of the floor of the urethra is lacerated and the prostate slightly torn: the capsule remains perfect, but the orifices of the ejaculatory ducts can seldom be distinguished.

4. If a calculus half an inch in diameter be extracted through a prostate which has been partially incised, as in lateral lithotomy, the capsule and orifices of the ejaculatory ducts remain perfect.

5. Stones upwards of half an inch in diameter, when extracted by the median operation, lacerate more or less the prostate and its capsule, and obliterate the orifices of the ejaculatory ducts.

6. Calculi of one inch in diameter and upwards, when extracted through a prostate which has only been partially incised, in the lateral operation, lacerate the gland and its capsule completely in a direction downwards and outwards, and obliterate the orifices of the ejaculatory ducts.

7. If a calculus be extracted through an aperture which was made by cutting and not by laceration, then the orifices of the ejaculatory ducts can always be distinguished.

8. The so-called dilatation of the prostate is complete rupture.

9. When a stone is extracted from the bladder by means of a limited incision and subsequent so-called dilatation, either in median or lateral lithotomy, there is always more or less eversion of the gland; that is, in such cases, the stone has a tendency to enucleate the gland from its capsule in a direction forwards. Thus, therefore, only a very small stone can be extracted through a partially incised prostate without completely lacerating the gland and its capsule. In fact, if an ordinary sized stone be extracted, either in median or in lateral lithotomy, by a limited incision, the prostate is found split in two, the halves being held together by a remnant of the capsule about half an inch broad. Some persons would object to deductions drawn from experiments made on the dead body, and say that results obtained ere death must be very different to what happens after lithotomy in the living. It must, however, be remembered that the mechanical properties of the fasciæ are not altered for some time after death, and therefore experiments made a few hours post-mortem afford similar results to those which would have ensued on the living.

ART. 177.—*Clinical Account of Two Cases of Traumatic Tetanus successfully Treated with the Ordeal Bean of Calabar.*

By EBEN. WATSON, M. A., M. D., Lecturer on Physiology in Anderson's University, and Surgeon to the Royal Infirmary, Glasgow.

(*The Lancet*, March 2, 1867.)

Dr. Watson relates the following cases, in the hope that others may be encouraged to give this drug a further and a fuller trial than he has yet done; for he believes that the success which he has met with in the treatment of these two cases holds out a fair promise of our being thus led to a powerful and yet manageable remedy in a class of cases notorious heretofore not only for their fatality, but also for the total absence of any rational means of controlling their rapid and distressing progress.

CASE 1.—Annie W., aged eleven years, admitted to the Royal Infirmary on the 12th of November, 1866. About three weeks ago the patient struck her right foot against a stone and bruised and cut it slightly at the side of the nail of the great toe. No attention was paid to it at the time. She has at present the aspect and expression of one who has trismus, and she opens her mouth with difficulty. For this "lock-jaw," which commenced six days ago, she has been sent to the hospital.

She remained in this state, and no violent spasms came on till the evening, when opisthotonos occurred in a very severe form, the body being bent into an arch of nearly three-quarters of a circle. She was so rigid in this state that my resident assistant, Dr. Forsyth, administered chloroform by inhalation, which relieved her for the time, but whenever she came out of the anæsthetic state the spasms were renewed as violently as ever; so much so, indeed, that she was again put under its influence with the same temporary good effect. While under the chloroform the outer half of the toe-nail was cut away from the still inflamed and ecchymosed matrix, and a poultice was applied.

Nov. 13th.—This morning I found her as described. Her jaws were firmly locked,

and her body and limbs perfectly rigid. The tendency to opisthotonos was at once induced by the patient's attempting to drink cold water, and also by touching any part of her. Indeed, even though undisturbed, the spasms were very frequent, and always tended in the direction of opisthotonos; hence the poor child found her only comfort in lying on her belly, with her head and shoulders over the edge of the bed; and at this time she required continual attention to prevent her falling out of bed, and as the spasms were coming on, her cries for help were most distressing. I prescribed a dose of calomel and jalap at once, and during the day, every two hours, fifteen drops of the tincture of cannabis indica, a drug which certainly soothes in tetanus more safely than any other.

14th.—Patient's bowels have not been moved by the calomel and jalap. She continues in the same state as yesterday, but in the evening the spasms became much more severe. She was ordered half an ounce of castor oil with a drop of croton oil mixed with it.

15th.—Bowels acted freely yesterday; stools quite black. She has taken the Indian hemp very irregularly, sometimes spitting it out.

Every evening there is a considerable aggravation of the spasms, and this seems to be more and more marked each successive evening.

I now determined to try the Calabar bean, and in the emergency the only preparation of it which could be got was that used in ophthalmic practice for contracting the pupil. I may here mention, for the sake of those who may not have had their attention called to this subject, that the action of the Calabar bean in sufficient doses is to paralyze the voluntary muscles, the very muscles which are spasmodically contracted in tetanus. Hence the prospect of counteracting the influence of the disease by that of the poison. I may also state that the action of Calabar bean in contracting, and that of belladonna in dilating, the pupil cannot at present be satisfactorily explained. We can only assume that in the former case the radiating fibres of the iris are paralyzed, and in the latter the circular; but whether this is due, as Valentin has supposed, to the special distribution of the cerebral and sympathetic nerves to these different sets of fibres in the iris, and to a special action of the two substances upon them, it is not easy to determine. On this point I may hereafter enlarge a little; but in the meantime I return to the narrative of my case.

At half-past two P. M. of the 15th November, one square of Squire's gelatine paper, containing the extract of Calabar bean, was put on the patient's tongue, through the space left by a missing tooth. Shortly after getting it she felt easier, was more cheerful, and kicked up her heels as she lay in bed on her abdomen, to show the power she had over them. At three P. M. she got two other squares, at seven P. M. three squares, and at ten P. M. two more. No severe spasms occurred during this evening; she had only a few short starts, but she was always very rigid, in both body and limbs, and the opisthotonos and trismus were quite marked. She was more cheerful, however, and spoke more distinctly. Pupils rather contracted. She was to have two squares of Calabar paper every hour during the night.

16th.—This morning I found her quite rigid, and with frequent and severe spasms. In fact, I thought either that the papers were not sufficiently strong, or that they were losing their influence on the patient. I now therefore ordered the following preparation:† Extract of Calabar bean, twelve grains; white wine, one ounce. This made a muddy sort of wine of the Calabar bean, every five drops of which contained about one-eighth of a grain of the extract. Such a dose was to be given every half hour, the effects being carefully watched by my assistant. It will be noticed that the doses were given very close together, for we had already learned that the effects were very short-lived. These doses were regularly given till seven P. M., by which time she had taken eighty drops or two grains of the extract. Only momentary twitches had occurred, and these principally when spoken to. At half-past seven P. M. she was in a semi-comatose condition, lying on her back, with no arching, mouth open, pupils pretty well contracted, breathing quiet and regular, pulse rather hurried and full.

In this state of things the Calabar bean was intermitted for two hours and a half—i. e., till half-past nine P. M., by which time the pupils had again dilated, and transitory spasms were induced by touching or rousing patient with questions. Nine drops of the wine were then given, and five drops thereafter every hour during the night.

18th.—She continues better, breathes more easily, and swallows better; pulse 84,

† None of these preparations of Calabar bean were left in the ward, but were kept locked up, and administered either by my assistant, a fully qualified gentleman, or under his superintendence by the nurse of the ward, who is a most careful and attentive person.

of good strength; pupils natural. Increase the dose of the wine to ten drops every hour.

19th.—Notwithstanding this increase, the patient had three severe fits of opisthotonos early in the morning, and she remained very rigid and the spasms easily excitable till my visit. I now determined to use a stronger dose of the extract, and thus endeavor to conquer the disease. For this purpose I ordered the following pills:—Extract of Calabar bean, twelve grains; ginger powder of sufficient quantity to make twenty-four pills: one to be taken every hour. By mistake the apothecary made these pills of twice the strength ordered—viz., containing each one grain instead of half a grain of the extract. This was not, however, discovered till the evening, so that the patient took one grain of the extract every hour for eight hours without any particular effect being produced. But half an hour after the ninth had been swallowed, the patient fell into the following state:—Her eyes were widely opened, staring and glassy; the pupils were contracted to pin points; the pulse was rapid and intermitting; there was a mucous rattle in the throat, and the breathing was jerky and fitful. Patient did not answer questions, and gave no signs of sensibility. She had no spasms, neither could they be induced. In fact, all the muscles were completely relaxed, except those of the back, which were still rigid. She either could not or would not move any of her limbs, or make voluntary efforts to swallow. Some brandy-and-water and seven drops of the tincture of belladonna were poured down her throat, she not resisting, and this was repeated in five minutes. No effect was produced on the pupils, but the expression became less death-like. Patient was turned over on her side, for she had lain on her back hitherto, and then she got quit of some reddish-colored, apparently bloody mucus from the throat by both mouth and nose. The breathing was thus rendered easier, but it was at first very hurried and panting. Gradually it became fuller and slower, and the pulse likewise became slower and more regular. The pupils soon dilated, but the extremities remained quite flaccid during the greater part of the night. As soon as the breathing was partially restored, she seemed to be quite sensible, but averse or unable to move. Towards morning the spasms, though less violent, could be easily induced; and next morning, at half-past eight, I found no traces remaining of the very remarkable state in which she had been on the previous evening. She was, however, flushed and perspiring; the pupils were quite natural, but the pulse was quicker than formerly; it numbered 108 in the minute, but was soft and regular. She expressed herself as better. She had no giddiness or any other disagreeable feeling attributable to the Calabar bean, and she was perfectly correct in her mind.

I remarked that the arms, though still unnaturally stiff, were more under the control of the will than they had been. She could move them a little, and she could separate her teeth just enough to get the edge of a spoon between them. She could also swallow better, and she lay much more quietly, and now generally on her side, in bed.

I considered it prudent to cease giving the bean to this patient for a time, and allow her to rally quite thoroughly from its effects. I therefore stopped it, and once more ordered the tincture of cannabis indica, with appropriate food and stimulants. Under this treatment she improved in strength, but not much in respect of the tetanus. Her spasms certainly never were so strong as formerly, but they were very easily produced, showing that the disease was still unconquered. Besides, the body and legs became again quite stiff, so that if one could have raised her by the foot, he could have held her straight out in any position. At the same time the face had rather a more natural expression, and she could separate the teeth about half an inch. Her power over the arms was also greater, and she could even move the head a little to one side.

Such was her state at the end of the ten days during which she had no Calabar bean. It seemed to me that the tetanus had received a decided check from the large dose of the bean taken on the 24th of November, and that it had never since assumed its former severity. Still there had been little further progress made towards a cure since the bean was stopped. I therefore recommenced it in the form of tincture, made after the receipt of Dr. Fraser (*Edin. Med. Journal*, vol. ix., p. 124), who considers five minims to be equal to three grains of the kernel.

Dec. 6th.—I ordered the patient to have a dose of five minims of the above tincture every two hours, stopping the cannabis indica.

10th.—Last night without any aperient medicine having been given to her, patient had five large watery evacuations from the bowels. This was the more remarkable because she had previously required a strong dose of castor oil, often fortified with

croton oil, to move the bowels, and except from the effect of such medicine they had always remained confined. I have little doubt, therefore, that this was another of the physiological actions of the bean—viz, catharsis.

It was noticed likewise to-day that her muscles generally were much more relaxed. The expression of the face was much more natural; she could laugh and open the mouth wider than she had yet done, and she could chew her food well. Her head and limbs, both superior and inferior, were likewise capable of being moved a little: but her back and abdomen still remained rigid, and the spasms, though very slight, were easily reproduced. The tincture was continued in the same dose, but only every six hours.

After this date her recovery was very rapid, and I find it noted in the journal on the 22d December that for some days previously the patient had been quite well, and running about the ward. No trace remained of her formidable illness, and from the above-mentioned day she took no more of the bean.

On the 4th of January, 1867, she was sent to the Convalescent Home at Bothwell.

CASE 2.—John M^r T., aged thirteen, admitted on the 6th of December, 1866. Three weeks ago patient's left forefinger was drawn in between two pinion-wheels, and the nail was bent backwards, while the side of the finger was slightly torn. The wound was dressed by a surgeon that day. Next day the boy pulled away the nail, which was loose, and the wound healed up in a week. On the evening of Dec. 4th patient first felt a pain in his back and stiffness in his legs. On being closely questioned, he admits that shortly before he felt the pain in his back he had been trying to turn round, and fell backwards, cutting his ear slightly. After lying down in bed that night he says he took starts, which raised up his back. This was the commencement of tetanus. All this time patient had been very confined in his bowels. He had no passage for a week after the accident, when he had one motion. A week after this he got a dose of castor oil, which purged him; and from that time till the present date he has again been confined.

On admission, the tetanic symptoms were well marked. The trismus was so decided that he could only open his teeth for about half an inch. His back and limbs, superior and inferior, are reported as quite rigid; and any slight exertion, such as trying to open the mouth, brings on a spasm which twitches his head backwards in a slight fit of opisthotonos. Complaints of indistinctness of vision at a short distance. Right pupil much dilated, but sensible to light. To have a draught consisting of half an ounce of castor oil and one minim of croton oil.

Dec. 7th.—The oil acted twice yesterday and thrice this morning. Pulse 84, good. To have five minims of tincture of Calabar bean every two hours.

9th.—The doses of the tincture have been regularly taken during the last two days, always with perceptible benefit for about half an hour. During this time the patient has slept but very lightly, being easily awakened, and on awaking he has spasms tending more or less severely to opisthotonos. He has taken his food well. Pulse 80, good; tongue white; skin natural. Pupils large, but contractile; right one rather larger than left. Complaints of a pain in left side of chest, passing upwards. Heart and lungs healthy. Patient slept but little last night, and is more rigid to-day, especially on the left side of the body. To have four minims of the tincture every hour to-day, carefully watching its effects, and modifying the doses accordingly.

11th.—Had a better night last night than he has had yet; only awoke three or four times. Expression of face is more natural, muscles of limbs are freer, and those of the body are less rigid than they were; but he still takes a general spasm about every quarter of an hour, which, however, is only a third of their former frequency, and they are much less severe than they were. He sat propped up in bed yesterday for a time. Since last report the patient has taken four minims of the tincture every hour. About fifteen or twenty minutes afterwards his pupils are contracted, and from this to half an hour his muscles are in their most relaxed state. These effects seem to wear off very soon, and at the end of the hour the pupils are rather too widely dilated, and the tendency to spasms has increased.

13th.—Was very sleepy yesterday forenoon, and had an interval of about an hour between the spasms, which is the longest he has yet had; they are also much slighter, and he can open his mouth about an inch. The muscles of the body are more relaxed. Since yesterday afternoon he has only had five minims of the tincture every second hour, and he had but two doses during the night.

14th.—Again this morning the dose was given only every three hours, but the spasms became so much more frequent and severe that in the evening it was again increased to six minims every two hours.

15th.—This dose has been continued during the night, and to-day the spasms are again fewer than yesterday, as well as less violent.

16th.—The doses have been regularly given night and day. The patient has not had a single spasm all this day.

18th.—Was out of bed yesterday, and walked, though very stiffly, his back and limbs being less at command than they should be, though not tetanically rigid as before. Thus, he does not in walking bend his knees, but on being asked to do so he bends them quite well. He had only one spasm yesterday, and that was induced by a crutch falling on the ward floor and making a sudden noise, which startled him.

24th.—The above was his last spasm, and in all respects he has continued to improve since last report. He now walks much more freely, opens his mouth, and takes his food well. He takes only six minims of tincture three times a day.

In a few days after the last report the administration of the bean was finally stopped, the patient being in every respect quite well; and after keeping him under observation for a few days, he was sent with the other tetanic patient to the Convalescent Home, on the 4th of January, 1867."

Dr. Watson thinks that the Calabar bean is better borne in this disease than it would be in any other. It was taken and required all along, by the girl especially, in much larger doses than he should prescribe in ordinary circumstances. The rule which he should give to others, and the one on which he means to act himself, is to begin with a small dose, and rather to diminish the intervals than to increase the strength of the dose, till we become better acquainted with this powerful agent. Dr. Watson greatly prefers the fluid form of administering the bean, as giving less probability of its accumulating in the stomach, which might occur if it were given in the solid form—as, for example, in pills repeated very frequently. The tincture, if well made as directed by Dr. Fraser, is certainly the best and safest form in which it can be administered; and five minims of such a tincture is quite a safe dose to commence with in the case of persons above ten or twelve years of age, as far as his experience goes.

ART. 178.—*Abscess of the Appendix Vermiformis: Operation: Cure.*

By Prof. WILLARD PARKER.

(*Medical Record*, March 15, 1867; and the *American Journal of Medical Sciences*, April, 1867.)

Professor Parker relates the following highly interesting case:—

"J. D., æt. forty, strong, of full habit, was attacked with pain in the bowels at half-past four o'clock in the morning of Friday, January 12, 1866. He has been more or less subject to severe attacks in the bowels for some years. The night preceding the present attack, he had been out with friends and had eaten a late supper. At five A. M. he vomited, and felt some pain in the right iliac fossa. At eight, he took coffee and toast, after which he went down town. During the day he had no appetite, and took no food until evening, when he ate a little cold chicken. There was no movement from the bowels during the day. In the night he had nausea. On the 13th he arose early, having passed a restless night. After breakfast he took two blue-pills. During the day he suffered from pain in the right side, which was relieved by bending over to that side. On the 14th, there being as yet no movement from the bowels, he took a glass of Saratoga Empire water. Pain, restlessness, and nausea still continued. Mustard was applied over the affected side. This evening he had an inefficient movement from the bowels. On the 15th, the above symptoms increased in severity, continued, and in addition he was troubled with eructations. In the evening his family physician, Dr. Sabine, saw him, and ordered opium, and a blister to the affected side, also leeches. On the 16th, I saw the patient in consultation with Dr. S. We found him with a thickly-coated tongue; no appetite; nausea; and a constipated state of the bowels; pulse inflammatory, ranging over 100; skin dry and feverish; abdomen tumid and resonant on percussion; pain in the whole abdomen, but more decided in the right iliac fossa. Over this was a circumscribed tenderness, the boundaries of which could easily

be marked out by the fingers. Micturition painful; pain also extended down the right thigh, and to the right testicle, which was drawn up. He was lying with his right thigh flexed on the pelvis, which position gave him some relief.

The case was diagnosed as probably abscess of the appendix vermiformis. To render it certain, however, that there was no internal hernia, intussusception or impaction of feces, and to clear up the diagnosis, we ordered calomel, gr. xv, and opium, gr. iij, to be given in three doses. On the morning of the 17th, ol. ricini ʒj, with tr. opii gtt. xx, were administered, and operated freely, a large quantity of scybalous feces coming away. The immediate effect was an amelioration of all the symptoms. The pulse became soft, and fell to 80; skin moist; tongue less coated; some return of appetite; abdomen less tumid, and the pain became definitely circumscribed in the right iliac fossa. On the 19th, his symptoms indicated a return of his former condition. During this day he was kept under the influence of opium, and on the 20th, finding his symptoms more unfavorable, his exact condition was explained to him and the operation proposed. It was, with his consent, decided that if on the next day there should be no improvement, it should be performed. On the 21st, there being no change for the better, but, if anything, for the worse, and it now being the ninth day of the attack, it was decided to operate as soon as practicable. An injection of catnip-tea was given, to relieve the bowels of wind, and at half-past two P. M., assisted by Drs. Sabine, Sands, Thomas Sabine, and my pupil, Mr. Wynkoop, I commenced the operation.

An incision six inches in length was made through the integument, commencing above, and about one inch from the anterior superior spinous process of the ilium, running towards the symphysis pubis. About one inch of the incision was above an imaginary line drawn from one ant. sup. spin. proc. to the other, and five inches below. The incision was continued carefully down, and all the structures found to be healthy, until the fascia transversalis was reached, which was found to be thickened. This was divided over a director, and right beneath a tumor was felt, which was about two inches long and an inch and a half in width. An exploring needle was introduced, when immediately there gushed up some thick, bad-smelling pus. The sac was now freely opened, and about four ounces of pus, in which there may have been a little feces, discharged. A tent was introduced into the cavity, and the wound left to close up by the granulations. The patient rallied well after the operation, and passed a good night. The next morning he was in a quiet condition; pulse 84, soft; tongue more moist; abdomen soft; but little fever; wind escaping freely from the bowels; wound discharging healthily. The after-treatment consisted entirely of rest, opium, and nourishment. Perfect recovery took place in three weeks, and at the date of writing (Dec. 1866) he is enjoying perfect health.

ART. 179.—*History of a Case in which there were all the Symptoms of Laceration of the Diaphragm, ending in Recovery of the Patient, and the complete removal of the evidence of serious injury.*

By Mr. SAMUEL SOLLY, F.R.S., Surgeon to St. Thomas's Hospital.

(*Medical Times and Gazette*, May 25, 1867.)

Laceration of the diaphragm is uncommon, but can hardly be called very rare. Nor is it in itself immediately fatal, but the visceral injury with which it is usually complicated soon terminates the life of the sufferer. There are several cases on record where a large hole in the diaphragm has been discovered after death, where no such serious lesion has been suspected during life.

In the excellent article in Holmes's "Surgery," by George Pollock, on injuries to the abdomen, rupture of the diaphragm is treated of, but no cases detailed, or even suggested, of recovery, with a return of the extruded viscera from the chest. The case which I am about to relate had all the symptoms of the ruptured diaphragm, but the complete recovery of the patient, and the complete removal of all symptoms indicating, as in the first instance, hernia of the

stomach in the thoracic cavity, have caused me to doubt whether this lesion ever existed. If there was no rent in the diaphragm, then there is only one other explanation, and that seems almost as improbable—namely, paralysis of that side of the diaphragm from laceration of the phrenic nerve; not laceration by the end of the fractured rib, as the nerve and rib did not approach; but the violent lateral bending of the chest across the railway bars, and by which violence the ribs were broken.

It was suggested, when the case was very imperfectly discussed at the Medical and Chirurgical Society, that the abdominal resonance arose from pneumothorax, but there really was scarcely a symptom of that disease. The whole history of the case was opposed to it; and when such pathologists as Dr. Pavy and Dr. Walshe, who saw the case, and whose opinion I now add, pronounced against it, I do not think that the theories of any physician, however talented, are of much value when not founded on personal observation of the case.

I have not related this case *in extenso*, as the daily details are unnecessary.

A. C., lieutenant in the mercantile marine, aged twenty-nine; weight 10 st. 6 lb., with a great capacity of chest and good muscular development. At the time of the accident, which occurred in the forenoon on September 22, 1864, he was in rude health.

While engaged on board a ship in the Victoria Docks superintending the loading of a cargo, he missed his footing, and was precipitated down the hold, a depth of twenty feet, falling with great force on his left side across some iron railway bars. Immediately after the accident he was conveyed to the Poplar Hospital, where it was found he had sustained a fracture of the base of the radius (Collis's), and a fracture of two of the lower ribs on the left side, but no injury to the abdominal viscera was then apparent. After being bandaged, he was removed to the house of a friend in Bedford-place. On his arrival, he was attended by Mr. Clapton, of Queen-street, Cheapside, from whom I have derived some of these particulars.

Mr. Clapton found him very ill, great oppression of breathing, with a painful, anxious, livid countenance. Mr. Clapton at once removed the bandage from his chest. This afforded great relief, for after its removal he was able to walk up two flights of stairs with assistance. He was immediately placed in bed; Mr. Clapton gave him some brandy and applied bottles of hot water to the feet, which were deadly cold. By these means his oppressed circulation was restored; in about an hour's time the pulse rose to eighty, and the respirations, though not hurried, were chiefly abdominal.

He expressed himself much relieved, and seemed tolerably comfortable till 10 P. M., when on swallowing he complained it hurt him and gave him a burning pain in the region of the stomach, and upwards in the course of the phrenic nerve to the left supra-clavicular region. This pain in swallowing was at that time the only indication of injury to the abdomen, the pulse and respirations remaining the same.

Under these circumstances Dr. Pavy was called in, who agreed with Mr. Clapton in regarding this last symptom with some suspicion. He was now so ill that they doubted whether he would live through the night. He rallied, however, and was a little better the next morning, but on the following evening was again much worse; pulse 140, surface cold, and I was sent for.

I met Dr. Pavy and Mr. Clapton in consultation. I found him in a state of partial collapse, great difficulty of breathing, with a feeble fluttering pulse.

The impression on my mind then was that he was sinking from internal hemorrhage, possibly from rupture of the spleen, but he was so ill that we were not able to make any examination of the chest. We ordered ice to be applied to the left side, and to take it in small quantities internally. Small doses of acetate of lead and opium were prescribed.

On the following morning, when I saw him again, he was a little better; pulse 120; pain in the side and on swallowing somewhat relieved.

Third day.—Skin warm; pulse 120; breathing difficult; palpitation, but no cough or affection of the lungs. On the fourth day patient still better, and able to be removed on to an alderman's couch; but this change, though conducted

with the greatest care, nearly proved fatal, from the amount of dyspnoea that it produced.

Fifth day.—Arm examined, and found to be progressing favorably; general appearance of patient better, but towards evening became worse; palpitation increased, with feeling of suffocation; pulse nearly 130; breathing 30; great weakness. On examining his chest there was abnormal resonance extending upwards to the left side as far as the nipple, and from thence in an arched form to the centre of the sternum, from whence a tympanitic sound was given out on percussion. The apex of the heart found tumultuously and distinctly beating above the left nipple, the displacement being apparently due to the same cause that occasioned the abnormal tympanitic resonance referred to.

On the sixth day the extent of unnatural resonance had somewhat lessened, and the patient improved; but in the evening he was much worse, and was in a worse state than on the second night. Pulse 135; breathing 30, very faint; voice feeble, only able to whisper. The abnormal resonance increased, and the arch higher. Patient passed a dreamy and restless night, but had improved in the morning; pulse 120; arch of resonance slightly diminished.

Seventh day.—During the day, on slightly exerting himself in moving, he was rendered almost pulseless, but slowly recovered. Resonance slightly increased at night, but had diminished in the morning (eighth day), and from this time the patient generally improved, and was able to bear a bandage on his ribs on the tenth day. This increased the difficulty of breathing for a time, but at the end of a fortnight he had improved; was able to raise himself in bed; appetite better; breathing almost natural; pulse 96. All the time that the abnormal resonance was noticed, the breath-sounds were absent below the nipple anteriorly, and in the same part posteriorly there was tubular breathing and bronchophony, and there was displacement of the heart upwards and slightly towards the right side; there was also at this time an inability to yawn or sigh, the patient having suddenly to stop in the middle of either. Nor could he swallow more than a wine-glass of liquid without complaining of over-distension of the stomach, and the same remark applied to solid food. From this time he gradually but slowly recovered.

On October 12 (the twentieth day), I find the following note of his case:—

Examination of the Chest with Dr. Pavy.—Tympanitic resonance on the front of the chest as heretofore, as high as a line drawn transversely across just one inch below the nipple on the left side. At the back of the thorax, on the same side and the same level, there is distant bronchophony and tubular breathing, as if from a compressed lung.

The abnormal resonance which I have described was closely watched day by day, and gave rise to the fear that the diaphragm was rent, and that the stomach was thus allowed to escape into the cavity of the chest. This suspicion was in some measure confirmed by the pain in the course of the phrenic nerve on the reception of solids or fluids in the stomach; also the inability to take more than a very small quantity at a time, and the distressing sense of oppression and weight which its pressure occasioned. The length of time that it took for fluid to reach the stomach was ascertained by making the patient swallow, and listening for its passage into it. The tympanitic resonance was exactly that given by a distended stomach. On the other hand, the steady improvement in his condition, so that he was able to leave his bed and walk about without much dyspnoea, his ability to take more food without inconvenience, made me doubt whether such a serious lesion as rupture of the diaphragm could have taken place; and, though he improved every day in general health, the physical signs changed very little. The line of tympanitic resonance descended a little, but not more than an inch and a half.

Under these circumstances it was necessary to give his parents some idea as to the probability of his being able to resume his active duties as a sailor, and we sought the assistance of Dr. Walshe in consultation.

This took place exactly four weeks after the accident. When Dr. Walshe met us, we explained to him our doubts and difficulties. The first impression was, that if rupture of the diaphragm had taken place, he could not have been so well; but after a most careful and prolonged examination Dr. Walshe said that

he thought the hypothesis of a ruptured diaphragm was the only one that met all the symptoms of the case; and during his examination he found that fluid on being swallowed took longer time than natural in reaching the stomach, taking apparently a circuitous course before its arrival at the stomach, and seemed to fall there with a splash. The probability of its being a case of pneumothorax having been suggested, I have obtained from Dr. Walshe the following reasons for not entertaining that opinion when called in for consultation:—

“1. The absence of the special extra-resonance at the top of the chest. 2. The absence of any such notable dilatation of the side as must have existed had excess of resonance so marked depended on gas in the pleural sac. 3. The position of the heart, the organ being carried above its natural site, and not pushed out of its place to the right (there being no evidence from past history of interfering adhesions). 4. The amphoric quality of the percussion—not truly tympanitic or drum-like. 5. The impossibility of detecting any difference of quality between the percussion-note of the portion of thorax concerned, and that of the part of the abdomen immediately adjoining (that is, the stomach region). 6. It seemed difficult to believe that pneumothorax could have existed so long without being followed by pleuritic effusion.”

The patient left London the following day for his father's country seat. While there, all his difficulty of breathing subsided, and he perfectly recovered at the end of three months from the time of the accident. He resumed his duties in the mercantile marine, and has been in perfect health ever since. Exactly how his chest was restored to its normal condition I have not been able to discover; but when I examined his chest, eight months after the consultation with Dr. Walshe, I found the heart in its normal position, all tympanitic resonance gone, and the breath sounds throughout the thorax perfectly natural in quality and position.

Taking all the circumstances of this case into consideration, I am forced to the conclusion that the idea of a ruptured diaphragm was erroneous, and that one of my first theories—for we had several—was correct—namely, that the phrenic nerve on that side was torn, causing paralysis of that side of the diaphragm.

In its paralyzed and flaccid condition, no longer resisting the pressure of the abdominal viscera, the stomach was thrust up under the ribs, occupying the position of the heart and the lower part of the lungs, without being actually in the cavity of the thorax.

It may be argued, however, that it was merely an excessively distended stomach, from nervous shock; but if such had been the case, I think that this deformity would not have lasted four weeks.

ART. 180.—*On Tumors of the Scrotum in Infants.*

By MM. LOUVET and HAYEM.

(*Archives Générales de Médecine*, May, 1867.)

Some very curious cases of testicular and peritesticular tumors in young boys were presented to the Anatomical Society of Paris by M. Louvet. These cases formed the subject of a very interesting report by M. Hayem.

The first case was one of tuberculization of the epididymis in a child five and a half years of age; another case was one of encephaloid cancer of the testicle in a child aged sixteen months; the third was one of fibro-plastic tumor without the testicle in a boy aged seven years and a half. These tumors had been removed by M. Giraldés, and submitted to the members of the society for examination. M. Hayem was requested to make a microscopical investigation. These cases are remarkable, especially on account of the ages of the patients, for all surgical authors agree in the statement that tubercular and cancerous deposits are not met with in the generative organs before the period of puberty. The case of fibro-plastic tumor seems to be altogether exceptional, and no instance can be found reported by authors that in any way resembles it.

In the cases of M. Louvet, the tubercle was developed in the epididymis to

the exclusion of the testicle; the cancerous deposit was found in the seminal gland itself, and the epididymis remained intact: this is contrary to the opinion of M. Robin, who asserts that cancerous sarcocele is developed in the epididymis, and does not attack the testicle. The fibro-plastic tumor was formed without the tunica vaginalis, which it inclosed on every side, forming around it a more or less thickened shell. No doubt remained as to the intimate nature of these tumors after microscopical examination.

M. Hayem, in discussing the clinical history of the patients who were affected with these tumors, showed that difficulties almost insurmountable were presented to the diagnosis; for these tumors are much more difficult to recognize in the infant than in the adult, and each variety is not marked by its special symptoms. The case of tuberculous disease of the epididymis alone presented sufficient signs to allow of the surgeon's making a diagnosis.

The following are the conclusions of M. Hayem concerning prognosis and treatment.

The immediate prognosis in these cases was not very unfavorable; but when considered with a view to the future it remains very obscure. With regard to treatment, it appears from the practice of M. Giralde's, and from the results derived from it, that castration ought to be performed as soon as the surgeon is convinced of the existence of a tumor which may destroy the testicle. But if tubercular deposit can be diagnosed with certainty, it may be asked whether, as in the case of the adult, the surgeon should not wait before deciding upon the removal of an organ the important functions of which are not completely impaired.

ART. 181.—On the Employment of Hydrochlorate of Ammonia in Cases of Milky Engorgements of the Breast and in Scrofulous Swellings.

By M. GUÉNEAU DE MUSSY.

(*Bulletin de Thérapeutique; Gazette des Hôpitaux, No. 53.*)

M. Guéneau de Mussy, in a clinical lecture delivered at the Hôtel Dieu, called the attention of his hearers to some instances in which he had applied the hydrochlorate of ammonia for the treatment of milky swellings of the breast.

He referred to a case of a young woman who had been delivered three weeks before, and who a few days after her lying-in was affected with chaps in the left breast. These chaps became the starting-points of an inflammation of the mammary lymphatics, which extended and involved the connective tissue separating and binding together the glandular elements; a large abscess resulted, which was opened by an incision. On the other breast there was a deep ulcerated cleft affecting the nipple. The woman, however, continued to give suck; but the breast was certainly incompletely emptied, and being incessantly congested by the repeated attempts of the child to suck which were obliged to be interrupted through pain, became hard, swollen, and tender. Under the skin, which was stretched and marked by red patches, could be felt the sinuous cords formed by the lactiferous ducts. M. Guéneau de Mussy tried on this patient a remedy which had already given good results, principally in a patient who presented a milky engorgement, accompanied by pain, swelling, and redness so intense as to give occasion for fearing the commencement of suppuration. This method consists in the application of a poultice sprinkled with a solution of hydrochlorate of ammonia. From 10 to 20 parts of the salt are dissolved in 100 parts either of decoction of poppy-heads, or of water to which vinum opii has been added. This remedy was applied to the subject of M. Guéneau de Mussy's lecture after she had ceased to give suck and purgatives and a restricted diet had been ordered. Under the influence of this treatment the size of the tumor was considerably diminished, and became painless on pressure; there could, however, be still felt a small inflammatory knot at the lower part of the breast, about the size of a nut, and having a suspicious appearance, particularly as it was surrounded by some cedema. The use of the resolvent was continued, and at the end of three days the breast had returned to its normal condition.

The ammoniacal salt has, in the practice of M. Guéneau de Mussy, given very good results in some cases of subacute adenitis. In scrofulous subjects, during the course of a tonsillitis, or an eruption on the head, the cervical glands are frequently seen to become engorged, and this condition generally outlives the lesion of which it is the consequence. In these cases the affected part is smeared twice or thrice in the day with a pommade composed of five parts of the hydrochlorate of ammonia, one part of camphor, and thirty parts of lard, and is afterwards covered by cotton wadding.

M. Guéneau de Mussy proved two years ago the resolvent action of this pommade in a girl aged eight years, whose mother and sister had died of tubercular disease, and who was herself affected with considerable strumous engorgement of the glands and cellular tissue situated above Poupart's ligaments on the right side. The whole of the lower third of the internal iliac fossa was occupied by a hard, nipple-like swelling, in the centre of which fluctuation could be felt. The thin skin ulcerated, and there was a discharge of viscid pus suspending cheesy particles. The small opening remained fistulous, but the surrounding tumefaction was not sensibly diminished. This young woman was confined to her bed for many months to the great detriment of her general health. A number of resolvent baths, pommade, and plasters had been tried, and at the same time attempts had been made to support the nutritive powers by the internal exhibition of quinine, iodide of potassium and preparations of steel. M. Guéneau de Mussy made use of the ammoniacal pommade, and within a few weeks the tumor had undergone a marked diminution in size. Three months after the commencement of this treatment, notwithstanding a slight relapse provoked by imprudence, this girl, who had during the previous four or five months received no benefit, was improved so much as to be able to leave her bed, to walk without suffering, and to begin again her usual course of life. A very slight puffiness of the iliac region remained, but this caused no pain.

ART. 182.—*A Case of Double Cryptorchidism (Retained Testicle.)*

By M. BEIGEL, Frankfort.

(*Virchow's Archiv*, Bd. xxxviii. 2; *Gazette Hebdomadaire*, No. 19, 1867.)

Cases of inguinal inclusion of the testicle on both sides are rare, and the surgeon has seldom the opportunity of resolving by microscopical examination that question which is so important from more than one point of view, viz., whether this anomaly may lead to impotence or sterility. Though M. Gosselin, relying upon the facts reported by Hunter, Curling, Cloquet, and Godard, has been able to arrive at the conclusion that impotence does not necessarily exist in individuals affected with abdominal inclusion of the testicle, and that fecundation, admitted in some instances without having been rigorously demonstrated, may be considered as rare and exceptional, in inguinal inclusion, the cases are less convincing; as M. Gosselin on this point has expressed the opinion that the presence of both testicles in the groin is a very probable condition of sterility and sometimes of impotence. But he asserts that no decisive conclusion can be established on this delicate point without a microscopical examination of the semen. It would, in fact, be dangerous to lay down a general law upon this subject. The following case proves that inguinal inclusion of both testicles is by no means incompatible with the regular performance of the functions of these organs:—

"In a young man, aged twenty-two years, resident in Frankfort, who came under the notice of M. Bergal, the following condition of the genital organs was presented: Penis well developed and of normal length; the scrotum empty. In each groin there was observed an oval tumor; the one on the right side larger than that on the left; these tumors were easily recognized by the touch as the testicles. The young man experienced no inconvenience; coitus was performed frequently and even vigorously. Ejaculation seemed to be produced normally, and after sexual relations were abstained from for a long time he had

nocturnal emissions. Microscopical examination of the semen exposed to view a great number of spermatozoa. These characters sufficiently established the virility of the young man; and a single case of this kind satisfactorily demonstrates that testicles retained in the groin may preserve their structure and their functions intact."

ART. 183.—*Encysted Hydrocele of the Cord: Injection of Alcohol: Cure.*

By M. DE LUOÉ.

(*Gazette des Hôpitaux*, No. 41, April 6, 1867.)

"On January 19th, 1865, a youth aged nine years, came under my notice who had a tumor on the right side of the scrotum. This tumor was pyriform, of the size of a turkey's egg, firm, irreducible, painless, and transparent; its greater extremity extended from the inguinal ring to the middle of the fold of the groin; the small end was directed downwards and inwards, and was distinct from the testicle, which rested above it. The parents, who had noticed the swelling for some months, asserted that its only consequence had been a slight impediment to the child's walking. The only treatment that had been applied consisted of alcoholic compresses.

"I ordered the external application of tincture of iodine, and a few days later commenced a course of Faradisation, lasting about ten minutes every day. No marked result was obtained by these means, so, on February 12th I punctured the tumor with a trocar, and brought away a large amount of lemon-colored serous fluid. I then injected through the canula 7 grammes of alcohol. The liquid was allowed to remain within the cavity of the cyst, and I ordered the patient to rest in bed, and to apply cold-water compresses over the seat of the tumor. On the 13th the child was sick, the pulse was frequent, and the scrotum had become red, painful, and of its former size. Sedative draughts, a laxative enema, and cold compresses were ordered. On the 16th the swelling was diminished to one-half, there was scarcely any pain, and the appetite was normal. By digital examination of the scrotum, I made out a hard, firm, almost insensible tumor of a cylindrical shape and of the size of a finger, which extended from the inguinal ring to a spot about the distance of an inch from the testicle. On the 1st of March nothing more could be made out than the presence of a small hard swelling of the size of a nut, situated in the tract of the cord, and very distinct from the testicle. About four months later no remains of the tumor could be discovered.

ART. 184.—*On Congenital Sacral Cystoma.*

By Dr. KLEBS.

(*Virchow's Archiv*, xxxvii. Bd. 2 H. 1867; *Gazette Hebdomadaire*, No. 18, 1867.)

Cystic tumors of the sacral region, though rare, have been described by several authors. Instances of their occurrence have been reported by Meckel, Stoltz, Ehrmann, Giraldez and Michel, and Heschl and Luschka.

The majority of those tumors are described as consisting of cysts with fibrous walls, within which exist, here and there, cartilaginous bodies; the interior of the cyst is lined with pavement-epithelium, and, in some instances, with cylindrical and ciliated epithelial cells.

The real origin of those growths has not yet been determined; the majority of them are congenital, though some have been observed in adults. When Luschka discovered the coccygeal gland, he was induced to look upon this structure as the possible origin of the cystic sacral tumor, and the position of the gland in the depression formed between the two tendinous insertions of the levator ani muscle into the fourth piece of the coccyx, and its structure of a dense fibrous stroma with numerous closed vesicles, inclosing epithelial elements, were weighty arguments in favor of his opinion.

Dr. Klebs thinks, however, that this origin ought not, in a great number of instances, to be admitted, and in the case reported by him, the origin of the cystic tumor cannot be attributed to the coccygeal gland.

This tumor was observed in a child who died forty-one days after birth; it was situated in the perineum, and was as large as two fists. The anus was pushed forwards, the sacral region backwards, and the tumor extended into the pelvic outlet.

After death, the tumor was found to be adherent to the skin, which was ulcerated over a small extent of its surface. It was covered by a fibrous capsule fixed to the coccyx, and by a thin layer formed by the fascia of the levator ani muscle. The growth itself was made up of cysts with mucous contents, and separated by septa of connective tissue. Formed by an ovoid mass and divided into two parts by a ridge, which sent off fibrous prolongations to the coccyx, the tumor received two bifurcated branches from the median sacral artery. In front, the tumor extended between the rectum and the sacrum. On the other hand, above the tumor and under the skin, two small lenticular masses were found, each supplied by a branch of the sacral artery, and presenting the structure of the glands of Luschka. Finally, on the surface of the tumor, and near the coccyx, were seen two cartilaginous nodules, resembling in form the cartilages of the coccygeal vertebræ.

The presence of the glands of Luschka, and the existence of the cartilaginous nodules, demonstrate, according to Dr. Klebs, that the tumor did not take its origin from the coccygeal glands, but rather from the extremity of the vertebral column, having been developed from the remains of the chorda dorsalis. Among the cases of analogous tumor, and particularly those that have been collected by Braune, there are many circumstances strengthening this view, for in many instances the absence of some sacral or coccygeal vertebræ was noticed.

From these views it results that the sacral cystic tumors may be compared to the cartilaginous tumors met with by Luschka within the vertebral canal at the posterior periphery of the intervertebral discs. M. Klebs is inclined to admit that these productions, as well as the tumors of the sacral region, have a common correlation with the chorda dorsalis.

ART. 185.—*A New Instrument for Injecting Cancerous Tumors of the Uterus and Rectum.*

By T. J. ASHTON, Consulting Surgeon to the Marylebone Infirmary.

(*The Lancet*, January 19, 1867.)

The philosophic suggestion of Dr. Broadbent for the treatment of cancer is now being put to the test of experience by several eminent members of the profession. The time at present, however, has been too limited, and the observations too few, to admit of any positive deductions as to the attainment of the earnestly desired result—a cure for cancer.

We have yet to learn whether the action of acetic acid on the living cell is the same as when separated from the body and observed under the microscope; and if so, is the acid able to correct that constitutional condition on which pathologists believe the development of the cancerous tumor depends?

In injecting uterine and rectal cancer, Mr. Ashton found the long slender jet hitherto adapted to the instruments very inefficient, for the reasons, that it was difficult to avoid catching the point in the vagina or rectum, or puncturing the finger which served to guide it to the part of the tumor intended to be injected, and also to ascertain how far the jet had penetrated. To obviate these objections he has had made two tubes, the one sliding on the other. To the inner one is attached a fine gold jet with a sharp point; the outer one, which is the size of No. 6 urethral catheter, and two inches shorter than the inner tube and jet combined, is rounded at the upper end, and perforated by a hole sufficient to admit the passage of the jet. The two tubes combined form a long blunt jet, which, being fitted to a syringe, is readily passed along the finger, without the possibility of injury either to the operator or the patient; the outer tube is

arrested by contact with the tumor, and the inner tube is pushed on, making the jet penetrate the tumor, the depth to which it does so being indicated by the graduations at its outer extremity.

ART. 186.—*Extraction of a Glass Bottle from the Rectum.*

Under the care of Dr. HOWISON.

(*The Lancet*, May 25, 1867.)

The particulars of the following unusually remarkable case are reported by Mr. A. O. Haslewood, house-surgeon of the Darlington Hospital:—

T. W., aged thirty, a workman in the gas-house, was with some companions amusing himself with jumping over bottles placed above each other with their mouths uppermost. After he had in his turn jumped over the bottles, the top one was missing, and it appeared to have passed through a thin pair of flannel trousers into the rectum. The man, a patient of Dr. Howison, was brought to the hospital next morning. He gave very little appearance of anything being the matter. Immediately after the accident he felt very sick and faint. He went to bed, after trying to protrude the bottle. On his admission, the base of the bottle was found at the extremity of the ascending colon, though, from his description of its situation, soon after the accident it was just about the junction of the transverse and descending colon. An injection of warm soap-and-water was at once given. This had the effect of bringing the bottle within extreme reach of the finger. Dr. Marion Sims' vaginal speculum was used to expand the rectum, and after several attempts to seize and draw it out by a pair of cesophageal forceps, it was at length expelled in a great measure by the action of the bowel, assisted by manipulation. With the exception of the pain experienced in expanding the rectum, the extraction gave the patient little uneasiness, and he walked home seemingly very little the worse. He was directed to remain in bed for a day, and very soon recovered. The bottle is a castor-oil bottle, such as is usually sold by druggists, and is eight inches long, four inches round at the thick extremity, and one inch and a half round the neck. It is rather curious that the bottle should have been plumped down upon so exactly at the anal orifice as to pass up without much pain. What the consequences would have been had the bottle broken in its passage, it is rather unpleasant to conjecture.

(C) CONCERNING THE UPPER EXTREMITY.

ART. 187.—*Wound of the Palmar Arch: Secondary Hemorrhage: Ligation of the Brachial Artery: Recovery.*

Under the care of Mr. ARTHUR JACKSON.

(*The Lancet*, March 2, 1867.)

The following case is reported by Mr. Henry Britzcke, House-Surgeon of the Sheffield Public Hospital:—

S. B., aged six years, was accidentally wounded in the hand by her sister while playing with a penknife on December 11th, 1866. She was immediately brought to the hospital. On examination, a small, deep, punctured wound was discovered in the palm of the right hand, directly across the course of the superficial palmar arch; she was blanched and faint, her dress covered with blood, but none was then escaping from the wound. From the position of the puncture it was thought that the superficial palmar arch was wounded: accordingly a graduated compress of lint was placed upon the wound; two pieces of wood arranged transversely to the hand were fixed, one in front and the other behind, for the purpose of exerting pressure upon the pad of lint; the forearm was then flexed, placed upon a splint, and bandaged from the fingers to the shoulder. The friends would not agree to leave the child in the hospital, although it was strongly recommended. The next morning the child was brought in a great

hurry, the bleeding having burst out again. On inquiry it was discovered that the father had removed the lint and bandages altogether on account of the child complaining of pain. An attempt was made to pick up the bleeding vessel with forceps, but without success; a fresh compress was arranged as before, omitting the transverse splint on the back of the hand, as there was some œdema. She was then admitted as an in-patient.

Dec. 16th.—No hemorrhage. Hand swollen considerably.

19th.—Dressings removed; wound looks healthy; still some œdema of hand; a pad of lint was placed upon radial and ulnar arteries at the wrist, the arm bandaged and flexed, but the wound left open.

20th.—Wound looks well, and is cicatrizing.

21st.—Some bleeding occurred in the night, but soon stopped. At nine A.M. there was no appearance of hemorrhage; bandage and pads rearranged. At four P.M. a gush of blood took place; an attempt was made to seize the vessel without success; a tourniquet was then applied to the brachial, but in a short time the hand became so black and swollen from congestion that the strap was loosened, and the bleeding immediately recurred. Mr. Jackson determined to try pressure again. Three pieces of cork were placed over the radial, ulnar, and interosseous arteries, the latter being felt to pulsate very distinctly; the arm bandaged firmly, raised in the perpendicular position, and wrapped in cotton wool; wound left open; tourniquet loosely applied to brachial artery. Beef-tea ordered.

Dec. 22d.—A small quantity of blood is clotted round the wound; no further hemorrhage; patient sleeps well; no pain; temperature of hand normal.

24th.—Quarter-past six P.M.: While taking her tea the bleeding suddenly recurred; very little blood was lost, as the tourniquet was immediately screwed up. Mr. Jackson then decided to tie the brachial artery. The patient was placed under chloroform, the vessel exposed about the middle of the arm, two ligatures were applied, and the artery divided between; its dimensions were so small that some difficulty was experienced in deciding as to its identity. Splint applied, arm wrapped in cotton wool.

25th.—Patient comfortable; slight pain from wound in upper arm; hand warm; sensation normal; no pulsation at the wrist. Ordered beef-tea and half an ounce of saline mixture every four hours.

26th.—Swelling of hand much diminished. Water dressing applied to the wound in the palm. No hemorrhage.

30th.—Ligatures removed.

Jan. 6th.—Wound in the palm of hand healed.

12th.—Radial artery to be felt indistinctly.

20th.—Pulsation in radial artery very feeble.

23d.—Wound in upper arm cicatrizing. Forearm still weak and stiff.

ART. 188.—*A Case of Dislocation of the Forearm Forwards.*

By M. MAISONNEUVE, Hôtel-Dieu.

(*Gazette des Hôpitaux*, March 28, 1867.)

A woman, aged forty-four years, was on the 18th of January admitted under the care of M. Maisonneuve for a rare lesion of the right elbow. The extreme thinness of the patient permitted a precise determination of the position of the articular surfaces and of the principal muscles, and the true mechanism of the displacement could also be well made out.

The patient states that the injury was caused by her falling out of bed, during which fall her right arm came violently into contact with the edge of a stove. She immediately felt severe pain in the limb, which she at once perceived was deformed.

When seen by M. Maisonneuve the following day, January 19th, the right arm presented the following appearance: The lower extremity of the humerus projected at the posterior part of the limb, and through the stretched integument could be easily felt all the tuberosities and depressions of its articular

surface. The external condyle, the trochlea, the olecranon fossa, and the epitrochlea were directly under the skin, and uncovered by muscular or tendinous fibres. The triceps muscle was slightly stretched, and was directed outwards and forwards, so that its lower portion passed in front of the condyles of the humerus. The olecranon was intact and situated in front of the trochlea. The greater sigmoid cavity was turned backwards and applied to the articular pulley; the coronoid process being lodged in the olecranon cavity. The posterior surface of the olecranon was turned directly forwards, and could be felt with facility, though covered by a mass formed of the internal and external muscles of the forearm by which the head of the radius was completely concealed.

Passive extension and flexion could be easily produced, the last movement increased the tension of the skin on the posterior aspect of the joint, and facilitated the recognition of the various projections and depressions of the articular surfaces of the humerus. The forearm was slightly flexed and forcibly pronated. The palm of the hand could, however, without much difficulty, be turned forwards, by the combined rotatory movements of the humerus and radius.

The patient having been placed under the influence of chloroform, M. Maisonneuve proceeded to reduce the dislocation; direct traction of the forearm was first attempted, but no separation of the articular surfaces could be produced; the forearm was then forced directly outwards, and this movement succeeded in unlocking the parts; the olecranon was observed to become disengaged from the muscles which covered it in front, and at its outer border, which was now turned inwards, the head of the radius could be felt. At this moment the greater sigmoid cavity of the olecranon which was turned backwards, became freed from the trochlea, and embraced the condyle of the humerus. Considerable force had to be exerted to push it farther outwards, but directly the obstacle was overcome, the forearm was supinated, and the greater sigmoid cavity again turned forwards and passed behind the lower end of the humerus. The dislocation was not yet entirely reduced; it was only converted into a simple backward dislocation; and fresh efforts were required in order to complete the reduction. It was then found that all the parts of the joint were in proper position, extension and flexion could be executed freely, and there was no fracture either in the articular extremity of the humerus, or in the upper ends of the ulna and radius.

M. Maisonneuve, in his clinical remarks upon this case, stated that this luxation was but an exaggerated form of the external lateral dislocation. The bones of the forearm first forced outwards were by complete pronation brought round the condyle of the humerus and carried to the front of the lower extremity of that bone. In this new situation the head of the radius corresponded to the epitrochlea, the sigmoid cavity of the ulna was turned backwards and embraced the trochlea, the rough posterior surface of the olecranon was directed forwards, and its apex was lodged in the coronoid depression of the humerus, whilst the coronoid process corresponded to the olecranon fossa of the same bone.

The triceps muscle was carried by the olecranon round to the anterior part of the condyle of the humerus; the trachealis anticus and supinator brevis muscles were lacerated; but the biceps and sub-anconeus remained almost intact. The vessels and nerves were not in the least involved.

For two days after the operation the patient was extremely uneasy, and the arm was again dislocated. It was reduced, and special precautions taken to avoid another accident.

On the fourth day the integument about elbow mortified, the gangrene extended, and in the course of a few days the skin was destroyed over a space of the size of the palm of the hand, leaving the articulation exposed. Notwithstanding this untoward event, the general condition of the patient was kept up. Reparation has commenced, and everything promises a speedy and complete recovery.

ART. 189.—*Aneurism of the Brachial Artery Cured by Manipulation.*

By F. POOLE LANSDOWN, Esq., Surgeon to the Bristol General Hospital.

(*British Medical Journal*, March 16, 1867.)

The following case, which is one of great interest, owing to the rarity of the situation of the aneurism, and the rapidity with which it was cured, is related by Mr. Lansdown:—

J. D., aged forty-five, an insurance agent, living at Newport, came under my care at the Bristol General Hospital on the 30th of January, 1866. He was a tall spare man, with only one leg, his left thigh having been amputated twenty-four years previously for inflammation of the knee-joint. It was removed rather high up, so that he had used a crutch ever since. He first noticed the swelling in his left arm about a month ago. When getting out of bed one morning, his attention was called to it by the pulsation; it gave him no pain. He at once consulted a surgeon, who applied a bandage over it, and advised him to go up to Bristol.

The tumor was fusiform, of about the size of a duck's egg, soft and pulsating, expanding in all directions; it was situated about two inches below the posterior fold of the axilla, in the course of the brachial artery. On the current of blood being stopped, it was easily emptied, gradually refilling when the pressure was removed. A loud *bruit* was to be heard over the tumor.

As he had to return home on business, he did not come into the house until February 2d, when, on examining the aneurism, I was at once struck with its hardness and want of pulsation. On questioning the patient, he told me that he noticed the change in the swelling on the day after his visit to the hospital. The pulse at the wrist could just be felt, though very feeble. There was not the least pulsation in the tumor, nor was any *bruit* to be heard. The left hand was a little cooler than the right. I ordered him to remain in the horizontal position, on a simple diet.

Feb. 5th.—The tumor was sensibly smaller; and the radial artery was more easily felt at the wrist.

Feb. 7th.—The circumference of the arm over the tumor was less by half an inch than on the 5th. The radial pulsation was stronger. A branch of the superior profunda along the outer side of the arm, apparently nearly as large as the radial artery, was seen pulsating.

Feb. 19th.—The circumference of the arm was one inch less than when first measured, showing how much the tumor had subsided. He was made an out-patient to-day.

July 31st.—The patient presented himself to-day, quite well, and free from any inconvenience. A fibrous cord was all that remained of the aneurism.

Mr. Lansdown says the constant use of the crutch was the apparent cause of the disease; and he attributes the cure to the detachment of a portion of clot during the examination at the first interview. He handled it rather more freely than he should otherwise have done, in order to show the students the diagnostic signs of aneurism.

ART. 190.—*Encephaloid Disease of the Arm: Amputation of the Limb below the Shoulder: Recovery.*

Under the care of Mr. HOLMES COOTE.

(*British Medical Journal*, March 2, 1867.)

The patient was a married woman, forty-seven years of age, of pale, sallow aspect. She presented in the middle third of her left arm a very vascular tumor, of bluish hue, of the size of an orange, and surrounded for some distance by large blue veins. She stated that she first noticed the swelling nine months ago, and that it was from the beginning intensely painful. The limb had wasted, except about the elbow-joint, and she complained of loss of power and of a sense

of cold in it. The integuments about the joint were beginning to assume a bluish tint, and had a doughy look and feel. From the appearance of the part, no doubt was entertained that a secondary deposit of cancer was taking place in it. Under these circumstances, Mr. Coote determined on removing the limb, and accordingly amputated it just below the shoulder. On cutting through the tumor in the upper third of the arm, it was found to consist of soft encephaloid matter, which presented for the most part the typical brain-like aspect of this form of cancer, but the outer portion of which was dark red, very vascular, and had more the characters of epithelial cancer. The mass was developed in the skin and the cellular tissue underneath, but did not encroach on the muscles. The cutaneous and ligamentous tissues round the elbow-joint were infiltrated with the same kind of material, as had been suspected. There was no enlarged lymphatic gland in the axilla, and strangely enough, the disease in this case had spread in a centrifugal direction, for the patient was positive in her statement that the tumor in the upper arm had been the first to make its appearance, and that the tissues about the elbow had only recently become involved.

The operation was performed on January 19th, and the patient was discharged well, the other day, with a stump perfectly healed up.

ART. 191.—*Reduction of Dislocated Humerus by the Pendulum Method.*

.By Prof. SIMON, of Rostock.

(*Langenbeck's Archiv für Chirurgie*, Bd. viii. Heft 1.)

Prof. Simon gives the following instructions for reducing dislocations of the humerus by a novel procedure called by him the pendulum-method:—

The patient is laid upon the ground in front of a chair or bench, the sound arm being downwards and bound to the thorax by a towel, so that no support can be given by it. An assistant, standing upon the chair, seizes the dislocated limb by the wrist and draws it upwards, the operator at the same time grasps the shoulder and attempts to reduce the head of the humerus. When increased power of extension is required, and a higher elevation of the body rendered necessary, a napkin is fixed round the wrist and fastened to a rope which may be passed over a hook or through a pulley, and the patient is then hauled up by an assistant. When the whole weight of the body is desired for counter-extension, the ankles of the patient must be bound together and raised from the ground by a second assistant, so that no support can be given to the body by the legs. The operator can, by pressing upon the shoulder, increase the amount of extension-power. By the pendulum movement of the suspended patient, the slit in the articular capsule is widened, and reduction of the humerus facilitated.

Prof. Simon thinks that the pendulum-method possesses the following advantages over other plans for reducing dislocations of the head of humerus:—

1. It is easily and safely applied.
2. Little or no assistance is required: if the case be a simple one, the surgeon may reduce it himself by raising the patient; if it be difficult, any individual, even though he be inexperienced, may be of service.
3. The extension is made gradually and regularly; the weight of the patient's body keeps up the counter-extension.
4. The extension can be carried to the highest permissible extent; the average weight of the body is from 120 to 130 lbs., and this extension-power may be increased to 200 lbs. by the pressure of the operator upon the patient's shoulder.

Prof. Simon has applied the pendulum-method with success in seven cases—six of subcoracoid, and one of subglenoid dislocation of the humerus. In six cases the displacement was recent; in one it was of three weeks' date. Previous attempts at reduction had been made in most of the cases. In five cases the dislocation was gradually reduced without the assistance of chloroform.

ART. 192.—*Scirrhus of the Breast: Removal of the affected portion of the Gland only.*

Under the care of Mr. LUTHER HOLDEN.

(British Medical Journal, March 2, 1867.)

It is an open question still with many, whether cancer is in the beginning a purely local affection, or whether it is constitutional from the very first. If the latter view be the true one, it may well be asked, What is the use of operating at all, or of trying to remove the local disease by local treatment, by caustics, &c.? Even if the first view be taken, the question arises, When should an operation be resorted to? and, in the case of cancer of the breast, should the whole of the organ be removed, although a small portion of it be alone implicated? Different surgeons give different answers to these questions. When the cancer is of the encephaloid variety, an early operation is recommended by all; but, when the case is one of scirrhus, some surgeons advocate an early operation, while others concur with Hervez de Chégoin and Leroy d'Etiolles in advising delay, under the impression that more favorable results are obtained when the operation is postponed until time has been allowed for the cancer to localize itself and become more chronic, as it were.

From the line of practice pursued by Mr. Holden in a case of scirrhus of the breast, occurring in an elderly woman, we can easily infer what answers he would give to the questions just asked. The disease dated six months back only, and could not, therefore, be called chronic. It was small; had not involved the skin, nor any of the axillary glands; it affected a small portion of the breast only; and it presented an unusual symptom with this class of tumors—namely, that it gave no pain, or a very slight one only. Mr. Holden merely removed the cancerous mass, and a large slice of that portion of the breast in which it was imbedded. The remainder of the organ, feeling soft and healthy, was left untouched. Mr. Holden stated that this was his usual practice. He had done so in three cases already, and had not had occasion to regret it. In one of these cases the patient had died at the end of six months; but the other two patients were still well and living—one two years, and the other eighteen months, after the operation. The tumor in the present instance was found, when incised, to present the well-known characters of ordinary scirrhus.

ART. 193.—*On a Case of Excision and Regeneration of the entire Clavicle.*

By JOHN WM. IRVINE, L.R.C.S., Edin., Honorary Surgeon to the Liverpool Dispensaries, and Surgeon to West Derby Union Hospital.

(The Lancet, February 16, 1867.)

The following interesting case is placed on record by Mr. Irvine:—

“George W., aged sixteen, a wood-turner, residing in Hygeia-street, was admitted into the West Derby Union Hospital, on the 18th of June 1866, in consequence of serious disease of the right clavicle, the central portion of which was completely exposed.

“The patient stated that he was attacked with rheumatic fever on April 3d, and after trying various remedies of popular notoriety, sent on the 10th for my friend, Dr. Lodge, who adopted the alkaline method of treatment, and with such success that in three weeks the rheumatic affection had yielded. Unfortunately, however, at that time the boy was seized with local inflammatory symptoms of a very acute character over the centre of the right clavicle. This inflammation was accompanied with almost intolerable pain, and a great amount of swelling. The pain continued steadily, and the swelling increased rapidly until May 13th, when there occurred a spontaneous discharge of a great quantity of pus. Complete exposure of part of the clavicle followed this evacuation of purulent

matter, and the boy experienced considerable relief from pain. The pain, however, returned in a few days after the abscess opened, and may be imagined, as to its extent, when I say that the poor fellow got scarcely more than half an hour's rest at a time up to the date of his admission. The purulent discharge continued, and, according to the boy's mother's statement, amounted to more than a gallon. The mischief was attributed to an effort made to lift a very heavy weight, but there was no evidence whatever of any passive violence to the clavicle.

"On admission the patient was in a very exhausted state, having symptoms of hectic, and a constant purulent discharge from a wound which left an inch and a half of the central portion of the right clavicle perfectly denuded of periosteum, and of a glistening white appearance. He was put upon good diet, and such tonics as were calculated to bear up his strength; but, in spite of all efforts, he continued to lose flesh, and became more and more depressed in spirits, until July 2d, when abscesses began to show themselves near the sternum and scapula, and I determined to resect the clavicle.

"Chloroform having been administered, I made an incision over the entire length of the bone, and then, as far as possible, dissected the periosteum from its superficial surface. I then disarticulated the sterno-clavicular end, and so placed a spatula as to elevate the bone, proceeding to further separate the periosteum, which, to my delight, I found practicable without very great difficulty. I found it necessary to dissect with extreme care owing to the painfully perceptible pulsation of the subclavian artery, but with perseverance I removed the clavicle comparatively free from its periosteal covering.

"During the removal, hemorrhage occurred from seven sources. Three vessels were controlled by torsion, and I found it necessary to apply four ligatures. The wound was brought together by eight wire sutures, the arm was confined at right angles across the chest by means of bandages, and cold-water dressings were applied.

"After the operation the patient was allowed a plentiful supply of porter, beef-tea, nutritious broths, and every dainty which the governor of the work-house was requested to supply. No secondary hemorrhage occurred, and in a week the scapular end of the wound had healed by the first intention, and the arterial ligatures had been removed. The abscesses which had threatened to point near sternum and scapula had discharged themselves at the line of incision. The sternal end of the wound, which was healing by the granulating process, had a tendency to gape, but filled up very satisfactorily; the patient being confined to his right side, and having his head thoroughly elevated.

"On September 1st, two months after operation, the entire wound had cicatrized, and the patient had gained more than a stone in weight from the date of operation. He had been able to sit up, and use his arm in playing dominoes, for ten days past.

"On September 20th he expressed himself as quite able to follow his usual employment, and made an urgent request for his discharge, which was complied with.

"It was evident, on examination, that very considerable regeneration of the removed bone had taken place, and was likely to result in a serviceable, if not very elegant clavicle. The patient was cautioned not to use his right arm any more than was positively necessary, and left the hospital in excellent spirits.

"An examination of the clavicle after removal convinced me and every other surgeon who saw it that any operation short of entire extirpation would have proved unavailing. The scapular end of the diseased bone, especially its under surface, was found to be most affected, but the sternal end was considerably disorganized. The articular surface of the sternum was healthy.

"On the 31st of December, six months after operation, I had an opportunity of seeing the patient for the first time after his discharge, and found that he had meanwhile been actively employed at his own business, and had for some weeks been able to use his right arm as perfectly as ever. Occupying the place of the resected clavicle is a new bone, of rather beyond the normal length, and considerably wider, but more flat and thinner, than the original one. This regenerated clavicle plays its part with perfection, allowing the boy to use his arm as

efficiently as though no disturbance of the parts had taken place. It is interesting to notice the accuracy with which the limits of attachment of the clavicular muscles can be clearly defined when muscular efforts are made.

"Very few reports of resection of the entire clavicle are on record, as far as I can learn. Of the few cases mentioned by writers, I find only a single instance similar to the one I have narrated. It is reported in *Mém. de l'Académie Roy. de Méd.*, t. xiv. p. 56, by D'Angerville, who says that Moreau removed the whole clavicle in a young man on account of necrosis, and had the satisfaction of seeing the removed bone replaced by a new one, which enabled the arm to regain its former usefulness. The original wound in this case, as in mine, healed very quickly. So far as the actual operation is concerned, I consider it right to say that I found no inordinate difficulty in its performance, further than that which was caused by the proximity of important structures, and my desire to preserve the periosteum."

ART. 194.—*Scriveners' Palsy.*

By SAMUEL SOLLY, F.R.S., Senior Surgeon to St. Thomas's Hospital.

(*The Lancet*, May 11, 1867.)

A case of complete recovery from this palsy induces Mr. Solly to forward the following appendix to the observations on this disease which are contained in his "Surgical Experiences."

Halse, in Virchow's Handbook, says: "In writers' cramp the application of all means of healing has proved fruitless." Romberg also says: "The treatment hitherto pursued, both local and general, has been invariably ineffectual, so that the patients generally ceased from all attempts at cure, and remained satisfied with mechanical contrivances." This account of failure arises, Mr. Solly is now more than ever convinced, from the Germans not insisting upon entire rest of the paralyzed hand from writing, as he has advised in his work referred to, page 230.

Mr. Solly says: "This patient, Mr. S., twenty-five years of age, was a clerk in the London and Westminster Bank, when he consulted me on the 20th of October, 1863. At first he improved very decidedly; but not persevering in the remedies ordered and the entire rest I advised, he became much worse, and was obliged to resign his situation. He thus describes briefly what has occurred since:—

"In October, 1864—i. e., eleven months from first attack—my health, which had suffered through anxiety, had begun to improve, and my hand became stronger, so that I could use it for any ordinary purpose; but it was quite useless to hold a pen, to pick up a pin, or perform any action requiring delicate touch. Acting on the advice you then gave me, I carefully abstained from any attempt to test my hand till December, 1865—i. e., fourteen months. During this time I occasionally applied galvanism, and friction by rubbing with the other hand, but ceased taking your prescription—i. e., the sixteenth of a grain of strychnine—having done so steadily for about a year. In December, 1865, a medical gentleman who had been attending my wife, and whose books I had posted with my left hand, expressed a desire to see me attempt to use the right. In compliance with this request I did so, and found, to my joy, I could again, not only hold a pen, but also form letters, though with difficulty. Feeling nervous, I used it but seldom till the March following, when, finding it did not relapse, I became confident, and began once more to practise writing. By Christmas, 1866, I had quite overcome every remaining difficulty, and since that time have had the use of my hand as well and freely as ever."

Mr. Solly remarks: "From the number of cases which I have now seen, I am convinced that in a well-established case of this disease—i. e., in a case which has been allowed to progress unheeded for some weeks—I have hitherto found that entire rest from hand-writing for three months should be insisted on; but if the case is very recent, then I have reason to believe, from the following fact, that a much shorter time would suffice.

"Within the last few weeks I was consulted by a clerk in a bank for a slight numbness in the little finger, an indisposition to write, as he expressed it, or a slight feebleness in writing, with a difficulty in closing the hand. These symptoms had existed five days, and would not have been attended to if he had not seen other of his fellow-clerks struck down by scribes' palsy. The disease commencing with exactly the same signs, I prescribed at once entire rest, with a sojourn at the sea-side; a teaspoonful of the syrup of the superphosphate of iron and manganese immediately after meals. In a short time—about a week—the numbness decreased, and then passed off entirely; at the end of a fortnight he was apparently quite well again. I suppose that in this case the complaint was correctly diagnosed before any alteration of structure had taken place, and hence the rapid recovery.

"In all cases it is important that the general health should be attended to, and suitable tonics given; but that no strychnine should be prescribed for at least two months after the date when the use of the pen had been first abandoned, and that in no form should galvanism be employed until some improvement can be detected.

"My practical experience so far corroborates my theory of this disease: that in a confirmed case the dynamic portion—i. e., the vesicular structure—of the spinal cord or cerebellum, which harmonizes the movement of the hand, has been overworked and disorganized; that it must be reproduced in its original integrity; that the cure consists in giving Nature time and leisure to effect this reproduction.

"I have no positive facts to bring forward in proof that the nervous centre which has been injured is in the cerebellum or spinal cord; but I still incline to the belief that it is in the spinal cord."

ART. 195.—*Dislocation of the Radius and Ulna forward at the Elbow without Fracture.*

(*The Lancet*, Jan. 19, 1867.)

A case of this very rare dislocation occurred at University College Hospital the week before last, during the frost. A strong young man, of twenty years of age, slipped down on the pavement, falling on his left elbow. On getting up he found he could scarcely move the elbow, which was so painful that he applied immediately at the hospital. On examining him, about twenty minutes after the fall, Mr. J. W. Langmore, the house-surgeon, found that there was some swelling and a slight bruise over the prominence of the elbow, with but little swelling elsewhere. The arm was bent at an angle of about 130° , but could be flexed to a right angle and straightened to about 160° , although all movement gave the patient great pain. The forearm was about three-quarters of an inch longer than its fellow. The condyles of the humerus were nearly on a level with the olecranon, which was displaced forward, the tendon of the triceps muscle being very tightly stretched round the end of the humerus. The sigmoid notch could be felt. The head of the radius could also be felt in front of the lower end of the humerus. Mr. Langmore replaced the ulna by bending the elbow across his knee, and then, as the radius was still dislocated, he reduced it by pressing on its head while good extension was made by assistants. The arm was then put in a straight splint, and an evaporating lotion applied. A certain amount of heat and swelling ensued, but by the fourth day this subsided and the joint was quite movable.

ART. 196.—*The Results of the Treatment of Non-Bony Union after Fracture of the Humerus by the Introduction of Ivory Pegs through the Fragments.*

By JOHN BIRKETT, F.R.C.S., Surgeon to Guy's Hospital.

(*The Lancet*, May 25, 1867.)

"The failure of bony union of the fragments after fracture of the shafts of the long bones is," Mr. Birkett says, "a rare occurrence.

"The following cases contrast with each other in many interesting particulars. Occurring in different sexes, nearly at the same age, in the male the repair of a *simple* fracture, unattended by any complication, and treated after the ordinary methods, was arrested by the failure, in the last stage of reparation, to deposit the earthy salts of bone tissue. In the female, a *compound* fracture, complicated with a great extent of local injury of the soft parts around the fragments, and several other severe injuries, the condition of the patient and the secondary consequences of the injury may all be adduced as sufficient causes to explain the fact of non-bony union of the humerus. But, even in this case, the *compound* fracture of the lower jaw united as if under the most ordinary conditions. We may, therefore, perhaps, refer the defective repair of the arm-bone to local causes entirely.

"The most important constitutional and local circumstances admitted to influence the arrest of the deposit of earthy materials in the repair of long bones are as follows: The constitutional: old age, pregnancy, lactation, syphilis, phthisis, fevers, general cachexia, and scurvy. The local: diseased conditions of the broken bone, injury of the soft tissues surrounding the bone, destruction of its nutritious artery, movement of the fragments, the interposition of muscle between them, comminution, and wide separation of the fragments.

"It might be suggested that the baneful influence of the lead pigments used by the male patient in his work may have induced deterioration of his general health, but there were no traces of lead-poisoning detected. He could not be regarded as a robust nor very healthy-looking man from his facial aspect; yet his muscular system was fairly developed, and he made no complaints of ill-health. The woman, on the other hand, had given birth to a child a few weeks before she received the injury, at which moment she was suckling, and her social position was such as to lead to the deprivation of repose sufficient to recover her usual strength rapidly. Besides, the effects of the several severe injuries she had received produced an extraordinary amount of constitutional disturbance, and this might well counteract and exhaust the natural reparative processes. In her case we may fairly attribute the absence of bony union of the humerus to the great amount of local injury, which caused sloughing of the soft tissues, and an exhausting amount of suppuration. Also these conditions necessitated the frequent movement of the member, to prevent which, although a suitable splint was applied, was next to impracticable.

CASE 1.—J. H., aged twenty-nine, was admitted an in-patient at Guy's Hospital in July, 1861. A painter by trade, he had lived "pretty freely." He did not appear strong, but had generally enjoyed good health. About two months before admission he fell from a height of about twenty feet; and came to the surgery in consequence of having fractured the left humerus at about the middle and the lower third. The fragments were adjusted in the usual manner, and maintained *in situ* by means of the ordinary splints. He came at intervals, and was carefully attended by the dresser as an out-patient; but at the expiration of two months from the injury bony union had not taken place. In this condition he was admitted. There did not appear to be any indications, either from the state of the patient's general health or of the parts which had been injured, to explain the absence of bony deposit. A splint of leather was carefully made to fit the arm, and to maintain the fragments in a state of perfect repose. Tonics, stimuli, and full diet were given; but after the lapse of about two months and a half the fragments were still ununited by bone.

On the 16th of October I exposed the ends of the fragments by making a vertical

incision along the outside of the biceps muscle. I then cut away some fibro-cartilaginous tissue from their divided ends, drilled two holes obliquely, and inserted ivory pegs therein. The fracture had been rather oblique, so that with slight overlapping the pegs retained the fragments in close apposition. This operation was performed about five months after the bone was broken. A splint was adapted to the inside of the arm, and the wound dressed with moist lint. Not the least constitutional disturbance ensued; the wound healed favorably over the ends of the pegs, which had been cut off short—about a quarter of an inch from the humerus; and on the 11th of January, 1862, he left the hospital. At this date (nearly three months since the operation) there was a considerable amount of ossific union, and he was permitted to use the member, as he had done before leaving, with a splint around it for the sake of avoiding injury.

In October, 1862, he had acquired complete use of the member. This man has since frequently visited the hospital. The last time was in June, 1866. Then the pegs still remained in the bone. The usefulness of the arm was quite equal to that of the other, but at the site of the fracture there still remained a slight bony irregularity.

Briefly, then, there was absence of bony union after five months of the ordinary local and constitutional treatment, and bony deposit was excited by the operation in about two months and a half.

CASE 2.—Mrs. F., aged twenty-eight, was admitted into Guy's Hospital on June 9th, 1863, on account of injuries inflicted by the passage of a heavy four-wheeled wagon over her. Besides contusions over the body generally, the special injuries were *compound fracture* of the lower jaw and *compound fracture* of the left humerus, about its centre. There was a long wound in the middle of the inner side of the arm, through which the lower fragment of the humerus projected. The bone was not comminuted, and the irregular ends of the fragments were capable of being accurately fitted together, and might have been firmly maintained in apposition by means of a peg or wire suture, an operation which I regretted afterwards that I had not immediately performed. Moist lint was laid on the wound, splints were applied, and the arm kept in the most favorable position. The fragments of the lower jaw were adjusted by means of a wire twisted around the teeth. The patient had enjoyed good health. She was suckling a baby, ten weeks old, but she was in a state of healthy nutrition.

Excessive constitutional disturbance was excited by the injuries. She was obliged to give up suckling the infant, and she suffered much with the contusions about the left clavicle and same side of the neck. Not the slightest attempt at repair took place in the wound of the arm, around which erysipelatous inflammation appeared on the fourth day, and extended to the neck and face. Appropriate remedies were administered, consisting of stimulants, ferruginous tonics, and all the food she could take, and in about a week it had subsided altogether. The soft tissues of the arm in the neighborhood of the fracture were, however, the seat of wide-spread inflammation and suppuration, and at one time there seemed to be but slight hopes of saving the member. Nevertheless, by degrees, the wound assumed a healthy aspect, sloughs came away, and in spite of drawbacks from a troublesome cough, diarrhoea, and suppuration about the injured jawbone, there was complete cicatrization in October. At this date there was no attempt at ossific union of the humerus, although rather more than four months had passed away since the injury. The lower jaw had united and become quite strong in about the usual time.

On October 20th I made an incision on the outside of the arm down to the ends of the fragments, separated them, removed some fibro-cartilaginous tissue, and drilled two holes in the most suitable direction to maintain the fragments in apposition by means of ivory pegs. The shaft of the humerus being small, and the fracture having been oblique, the fragments were not so firmly held together as in the case of the male patient. The pegs were cut short, the wound was dressed with lint, and splints were adjusted. She suffered from the effects of the chloroform she had taken during the twenty-four hours following the operation, but otherwise she was very well. No inconvenience further than the above followed, either constitutionally or locally; and at the end of a week a gutta-percha splint was applied along the inside of the arm. On November 9th one of the pegs came away, after remaining in the bone twenty days; the other one could not be felt. The wound healed about the commencement of December; but although the mobility of the fragments was less than before the pegging, there was not ossific union. During January the ends of the fragments were protected from injury and kept in apposition by means of a leather splint, and the patient was allowed to move the arm as much as possible; but the movements of the

joints were much restrained in consequence of the long time the arm had been kept at rest. In February, four months after the operation, there being no bony union, she was discharged from the hospital, in the hope that change of air, diet, and scene might excite more reparative action.

At the end of March she was again admitted with a false joint at the site of fracture, and after careful constitutional and local treatment without advantage, I again, on the 24th of May, drilled holes in the ends of the fragments, and inserted another peg. The wound slowly healed, and she left the hospital the following August. At this time there was still mobility at the site of fracture.

During the next six months, which she passed in the provinces, a few small spiculae of bone exfoliated through an ulcerated opening in the cicatrix. The arm was more and more used, and ossific union became by degrees completed.

In January, 1865, the movements of the member were only slightly restrained by trifling stiffness of the elbow and shoulder joints; and although, by forcible examination, it was possible to demonstrate imperfect bony union, still the patient was able to use the arm for all ordinary occupations.

In March, 1866, the member was as strong, useful, and nearly as well-shaped as the uninjured one. Bony consolidation was completely established.

ART. 197.—*Traumatic Aneurism of the Palm cured by Compression.*

By SYDNEY JONES, F.R.C.S., Assistant Surgeon to, and Lecturer on Anatomy at, St. Thomas's Hospital.

(*The Lancet*, January 26, 1867.)

Rebecca S., aged twenty-nine, married, was admitted into the hospital on the 21st of June, 1866. On the 19th of the previous May, whilst opening a window, the sash of which gave way, she received a glass wound just below the front of the base of the right radius. The wound in the skin was transverse, and about three-quarters of an inch in extent. From it the patient herself drew a narrow pointed blade of glass, which had passed obliquely for a distance of nearly two inches towards the inner side of the palm. It had apparently gone through the annular ligament, and had wounded the dorsal side of the ulnar artery in its course to form the superficial palmar arch. At the time there was very extensive hemorrhage, at first controlled with difficulty, but subsequently completely so, by a pad firmly applied, and forced flexion of the forearm. The wound was completely healed in about ten days. Mr. Jones saw her on the 21st of June, four weeks after the injury. There was then a scar, three-quarters of an inch in extent, above the wrist. On the outer side of the ball of the little finger there was a pulsating swelling about the size of a large walnut. The skin was thin, and the surface red and shining. Much pain was complained of in the palm, and along the ring and little fingers. The movement of these fingers was also much impaired. On pressure the sac was readily emptied, and the thumb might be passed without difficulty deeply into the palm, and beneath the annular ligament. Pressure on the ulnar above the wrist diminished, but did not completely control the pulsation; when combined with pressure on the radial all pulsation was arrested. Pressure on the brachial likewise arrested all pulsation. Forced flexion of the elbow did not seem to have sufficient control over the pulsation to induce one to trust to this treatment alone.

By means of a tourniquet, light pressure was kept on the brachial. A bandage was applied from the hand upwards, and cork pads were placed upon the radial and ulnar above the wrist. At the same time the forearm was flexed. At first, on account of the tension and redness of the skin over the aneurism, it was thought inadvisable to use any pressure in the palm; but subsequently, when the redness had subsided, and the sac had become somewhat consolidated, a cork pad was placed also over the site of the aneurism.

Two days after her admission the treatment was interfered with, in consequence of her having to leave the hospital, on account of the death of her husband. She returned on the 29th of June, and treatment was resumed on the 30th.

July 7th.—No pulsation to be felt in the sac on removal of all pressure; sac

consolidated and much diminished in size; slight œdema of hand. The tourniquet was then discontinued, but pads were kept on the radial and ulnar, as well as over the sac.

Pulsation did not return during her stay in the hospital, which she left on July 13th. About a fortnight afterwards a slight return of pulsation occurred from the use of the hand, but soon disappeared. To continue the pads until all the palmar swelling has subsided, and to keep the arm completely at rest. The bandage was worn until November.

Jan. 8th, 1867.—No trace of aneurism to be discovered—the movements of the fingers not in the least impaired.

(D) CONCERNING THE LOWER EXTREMITY.

ART. 198.—*Wood's Operation for Varicose Veins.*

(*British Medical Journal*, January 19, 1867.)

On the 12th of January, a man was operated on for varicose veins of the right leg, by Mr. Wood, by a new method, which consists in including the dilated vein between a needle in front and a double metallic wire behind. The needle and wire are introduced through the same openings, the latter first, and it is twisted as tightly as possible round the two projecting ends of the needle. Within two or three days, the wire works its way through the vessel. If by that time it have not done so, through a piece of fascia intervening, it may be untwisted and tightened again. In this instance the vein was operated on in two different places, at an interval of about an inch. Mr. Wood stated that all the cases which he had treated by this method had done well; he had never had to deal with troublesome sores, and in one case only had there been a small abscess in a man in a low state of health; while he considered that it was a great point in favor of his mode of operating that it was not attended with any risk of hemorrhage, an accident which he has known to occur after Mr. Lee's operation for varicose veins, in which the vein is divided between two ligatures. He added, however, that where there was a mass of dilated veins, as in the scrotum, for instance, Mr. Lee's method was preferable to his own.

ART. 199.—*On Spasmodic Contraction of the Muscles of the Hip without Articular Lesion, and its Differential Diagnosis from Hip-Joint Disease.*

By M. PHILIPPEAUX, Lyons.

(*Gazette Hebdomadaire*, No. 10, 1867.)

M. Philippeaux, in a paper read before the Société Impériale de Chirurgie, observed that muscular contraction may simulate closely true disease of the hip-joint, and he endeavored to point out the symptoms which may assist the surgeon in making the differential diagnosis between these two affections.

The pains in hip-joint disease and in muscular rigidity have not the same locality, and differ very much in intensity. In hip-joint diseases the pain is seated in the joint, and is not superficial; it is increased by pressure upon the sole of the foot. In muscular contraction, it extends from the hip to the whole thigh, along the course of the affected muscles, its intensity is sometimes suddenly increased, and the patient cannot bear the least touch or examination of the limb; it is not aggravated by pressing the sole of the foot. In hip-joint disease, the skin is of a deep red color, in muscular rigidity it is generally of a rosy tint. In hip-joint disease, the parts about the articulation are generally swollen and thickened by a soft impressible exudation; in muscular contraction the skin is in close contact with the firm unyielding muscles, and the gluteal muscles are not flattened, as in cases of morbus coxarius. In hip-joint disease the various symptoms follow one another in a slow succession; in muscular contraction the phenomena are presented suddenly. Hip-joint disease is generally

met with in scrofulous patients, or in rheumatic individuals who have received some injury of the hip; contractions occur in nervous, hysterical, and anæmic patients, mostly in young girls before the age of puberty; disease of the spinal cord may also cause muscular spasm. If anæsthesia be resorted to, and the case be merely one of spasmodic muscular contractions, all deformity, displacement, and shortening of the limb will disappear, and the surgeon will be enabled to make out that the movements of the joint are unimpaired, and that they may then be performed without difficulty.

ART. 200.—*Extension Treatment of Fractured Femur.*

(*Medical Times and Gazette*, February 16, 1867.)

In the treatment of compound fractures where there is much displacement, and in the treatment of any fractures where there is much tendency to shortening, Mr. Simon has introduced a very simple mode of extension, at the suggestion of a Confederate Surgeon who was visiting St. Thomas's Hospital in the summer, and the plan has proved very efficacious. It consists in fixing a long piece of strapping on each side of the calf, leaving a large loop beyond the heel, into which loop a small cross-bar of wood is placed. Extension is then made from this piece of wood by the ordinary pulley apparatus. By this appliance pressure on the foot is avoided, and sores are not likely to be formed on the heel or instep. The wounds, if any, can be dressed easily without removing the apparatus, and the condition of the limb throughout is always under view. Counter-extension is made by means of a perineal band.

ART. 201.—*Fractured Patella successfully Treated by the application of an Iron Ring.*

(*American Journal of Medical Sciences*, January, 1867.)

Dr. W. A. Gibson reports a case of transverse fracture of the patella thus treated. He took a measurement of the sound patella, and had a ring made of iron (allowing for padding), which he padded well with cotton wadding, cut into strips and wrapped around the ring, over which he applied a bandage. He then placed a well-padded splint twenty-four inches long to the posterior aspect of the leg and thigh, which was secured by a few turns of bandage at the lower and upper ends, the bandage being loose, so as not to interfere with the circulation. He next brought the two fragments of bone into apposition, and placed the ring around the patella, and tied the strips of bandage over the splint, thus securely holding the ring in its place, and keeping the broken bone always in complete apposition, thereby giving the greatest possible chance for a bony union. At the expiration of thirty days, he removed the ring, and commenced passive motion of the limb, and found the union to be bony and complete.

"The appliance," he says, "did not give the patient the least pain, and there was no interruption of the circulation by the bandages. It was impossible in this case for the patella to escape from the ring, but possibly in some cases, as of women, when there is a good deal of adipose tissue, and but little prominence of the patella, it may not be so easy to apply the ring; but I am persuaded that it will give entire satisfaction in all cases. I claim by the application of the ring to have reduced one of the ugliest fractures of the human frame to one of the simplest for treatment."

ART. 202.—*Complete Dislocation of the Patella outward, of long standing, with a perfectly useful limb.*

By Prof. Dr. A. LÜCKE, Berne.

(*Langenbeck's Archiv für Klinische Chirurgie*, 1867.)

A man aged forty years came under the notice of Dr. Lücke on account of a recent injury, and on examination there was found an old dislocation of the right

patella outwards. The patient, when questioned about the date of the injury, could give no account of it, he scarcely knew that there was anything wrong in the leg, for he was able to use it as well as the other. No weakness had been felt in it, it had not prevented him from walking, nor was it apt to give way. He has no recollection of ever having sustained any accident, or of having had when a child a useless limb. It may be concluded, therefore, that the dislocation was produced at an early period of life.

The position of the patella, when the limb was flexed, was such that the front surface was turned completely outwards, and the posterior surface rested upon the outer condyle of the femur, the bone was placed so far backwards, that almost one-half of the contour of the outer head of the tibia could be touched before the finger came upon its inner margin. When the knee was looked at from before, the patella could only be seen in profile upon the outer side of the joint. The ligamentum patellæ extended very obliquely from the bone downwards and inwards, its fibres were lengthened, but in other respects normal. From the softness of the integument, every part of the joint could be explored with facility, and the intercondyloid fossa of the femur was found to be very shallow. The femur as high as the centre of its shaft was felt directly under the skin uncovered by muscle. The quadriceps extensor had been displaced outwards, and was flatter and thinner than its fellow of the opposite side. The position of the leg when flexed was normal. The right leg could be extended as far as the left, and during this action the patella moved a little forwards and turned upon its axis, so that the inner margin looked half inwards. In this position of the limb, it was possible by forcible turning and pushing, to move the patella inwards over the front of the outer condyle; but on the slightest movement on the man's part it slipped back again. The leg, when in the extended position, was distorted, being rotated externally, so that the point of the foot was pointed outwards to a considerable extent. It was by the combined movements of outward rotation of the leg and inward turning of the patella, that extension of the right leg became practicable.

Remarks.—The case here described agrees almost entirely with those hitherto, reported (especially those described by Malgaigne); only in this case the outward rotation of the leg was not a fixed distortion, since when the leg was flexed this movement was counterbalanced. The condition of the quadriceps extensor in old dislocations of this kind has not been noticed, but a similar result must occur ultimately in all cases.

ART. 203.—*Two Cases of Periodical Inflammation of the Right Knee-Joint: with Remarks.*¹

By CHARLES H. MOORE, F.R.C.S.

(*British Medical Journal*, February 2, 1867.)

Before detailing his cases, Mr. Moore referred to several examples of transient local disease characterized by recurrence at regular intervals. In some of these, vomiting came on weekly for many years; in others, various inflammations of the throat, tonsils, eyes, &c., occurred daily at a regular hour. One case was that of a distinct quotidian ague of the arm, the rigor, heat, and stage of perspiration being marked in each fit. Most of these cases were cured by arsenic or quinine.

The first of Mr. Moore's patients was a woman, aged forty-three, who had had ague in girlhood and was cured. Eight years afterwards, at the end of a day of fatiguing work, she was attacked with inflammation of the right knee-joint, which increased till the third day and then subsided. Thirty days afterwards, a similar attack came on, and the inflammation was many times repeated at the same interval. From the third month of pregnancy to the third month of lactation, the attacks were quite interrupted. Then they returned again,

¹ Abstract of a paper read before the Royal Medical and Chirurgical Society, January 8th, 1867.

and when she came under Mr. Moore's care, they had continued eighteen years. The only difference in the early and later character of the ailments was that nine instead of thirty days constituted the interval; but successive attacks recurred so punctually that they could be predicted almost to an hour. This patient was not cured.

The second case was that of a girl, aged twenty-one, who never had ague, but who was attacked with inflammation of the right knee-joint, after washing stone steps. The joint swelled, and on the third day was painful, and after that was well again. Twelve days from the attack, the whole local process was repeated in every particular, without any external occasion, and again an intermission of perfect health ensued. She had altogether nearly twenty attacks, but they were not always quite punctual to the day, and some occurred thirteen days, and one or two, eleven days from the previous one. Towards the subsidence of the disease, two attacks missed, and the interval was three times as long as usual. This patient recovered, apparently as the effect of quinine.

The first patient was under Mr. Moore's care only a short time, but he had the opportunity of witnessing three or four attacks. The second was under his observation during many of the attacks, and he was able to take precautions with a view to prevent their being feigned or artificially produced. In each case there was a movable body in the joint, and to it, possibly, the first onset of inflammation was owing; but the subsequent attacks were too precisely regular in their outbreak to be referred to any accidental cause; they were out of the date of the catamenia, and Mr. Moore expressed the opinion that they were in both patients of the nature of ague.

ART. 204.—*Removal of Dead Bone from the Right Tibia.*

Under the care of Sir W. FERGUSSON.

(*British Medical Journal*, January 5, 1867.)

The subject of this case was a pale, scrofulous-looking boy, between twelve and fourteen years of age, who, in consequence of some injury to the fore part of his right leg, had become affected with extensive necrosis of the shaft of the tibia. The point of interest in the case is, that the patient had, about six or eight weeks previously, been brought into the operating theatre, and an incision had been made down to the bone, although it was uncertain at the time whether the bone were denuded or not. Such a procedure would, as Sir W. Fergusson remarked, have been considered most objectionable—in fact, as opposed to all rule in good surgery—a few years ago; but experience had taught him, he said, that it was the best and wisest plan to pursue whenever, from concomitant circumstances, it could be inferred that there was necrosis of a bone. The rule used formerly to be, and still is with some surgeons, to do nothing, and wait until nature had loosened the dead bone completely, when it can be extracted. But Sir William maintains that, by so doing, time is allowed for such an amount of new bone to form that it becomes very difficult, nay, in some cases impossible, to get at the sequestrum; so that amputation of the limb has to be performed as a last resource, when the patient is worn out by the long-continued and exhausting discharge which is kept up by the irritation caused by the retained sequestrum. The plan advocated by Sir William consists in cutting down to the diseased bone, and in dividing the periosteum, the bone-forming membrane, so as to prevent the dead bone from being completely encased in, or overlaid by, a mass of new bone. In the present instance, the risk attendant on delay was well exemplified; for new bone, still soft and spongy, and therefore easily removable, was already encroaching on a necrosed portion of the shaft, low down in the leg, which was not yet loosened so as to admit of removal. The piece of dead bone, which was taken away from about the middle third of the tibia, exhibited the well-known jagged irregular outline of exfoliated bone, with long angular projections.

ART. 205.—*Case of Spontaneous Fracture.*

(*Berlin. Klin. Wochenschr.*, No. 4, 1867; and *British and Foreign Medico-Chirurgical Review*, April, 1867.)

Dr. Caspary relates the following interesting case, occurring in the person of a short, strong, healthy man, twenty-six years of age: In June, 1866, while ascending two steps which led to his dwelling, he felt a peculiar sensation in the left leg, as if unable to bear the weight of the body. He got indoors, however, and was even able to sit at table; but when he arose and attempted to walk, he cried out that he heard his leg crack, and that it was coming asunder. He could no longer stand, and was conveyed to bed. On examination there was found to be a transverse fracture of the tibia at the junction of its upper and middle thirds, with but little mobility, and no crepitation or displacement. The patient exhibited no signs of rickets, nor did the bone itself present any abnormal character. A gypsum bandage was applied, and the limb laid on a firm mattress. The patient lay very quietly, and without suffering; but when the bandage was removed, after three weeks, the limb remained precisely in the same condition. Under the advice of Dr. Wagner, assistant at Langenbeck's Clinic, the iodide of potassium was administered, that surgeon having found it of great utility in several cases of fracture of difficult consolidation. In this case it proved of no utility, as at the end of another four weeks union had not taken place. A very thick gypsum bandage, which reached up above the knee, was now applied, and the patient was directed to walk about, which he was soon able to do tolerably well with a stick. In twelve weeks, and five months after the occurrence of the fracture, bony union had taken place. The most careful investigation of this case failed to show any general or local pathological condition capable of explaining the occurrence of the spontaneous fracture.

ART. 206.—*Gummatous Nodules of Syphilitic Origin, developed in the Calves of the Legs.*

By CHARLES R. FRANCIS, M.B., late Officiating First Physician, Medical College Hospital, Calcutta.

(*The Indian Annals of Medical Science*, January, 1867.)

The following case is a good illustration of syphilitic nodular development in muscle:—

"J. J., a native of Chili, and a sailor, aged thirty, was admitted into the Medical College Hospital on the 15th October, 1866, complaining of rheumatic pains in his legs, and ankle and elbow-joints. A week prior to his admission he had observed two hard lumps in the calves of both his legs. Three years previously, he had a chancre. He was at once put under treatment for constitutional syphilis, and was ordered to take potass. iodid. gr. x, ter die. Iodine in tincture was applied to the ankles and front of the tibiae, there being nodular developments in the course of the periosteum; but nothing was done locally to the tumors in the calves. These rapidly diminished under the influence of the constitutional treatment, and in a month were reduced to more than half their size."

ART. 207.—*On the Treatment of Transverse Fracture of the Patella.*

By HENRY J. TYRRELL, F.R.C.S.I., M.R.I.A., Surgeon to Jervis Street Hospital, &c.

(*The Medical Press and Circular*, May 29, 1867.)

"The principal object of the present communication," Mr. Tyrrell says, "is to describe a very simple, and what is of more importance to the patient, a very convenient and comfortable mode of treatment, as during the treatment, it is

not necessary to keep the patient for any lengthened time on his back. It must be obvious, also, that in the old, when there is a disposition to congestion of the lungs and abdominal organs, any apparatus which allows them to sit up, turn from side to side, and be removed with ease from one room to another, is a desideratum.

"In the three cases in which I adopted the plan I am about to describe it answered admirably, particularly in a woman aged sixty, who was very delicate, and suffering from a severe attack of chronic bronchitis; although, in none of these cases did bony union take place, still the amount of separation did not exceed two lines.

"The apparatus consists of a long and thick pasteboard splint applied the entire length of the thigh, leg, and foot in the following manner:—

"As soon as the swelling about the knee has disappeared, and it is deemed advisable to apply any retentive apparatus, the leg and thigh being slightly raised, and the upper fragment of the broken patella being brought into its place by gently pressing the muscles of the front of the thigh downwards, I apply a strip of adhesive plaster, two inches broad, and sufficiently long to extend from the groin to the instep, and, while it is passed over the patella, the fragments should be accurately adjusted; the leg being still kept elevated, I roll a bandage from the toes upwards, and as soon as the knee is reached, before applying a figure of 8 around it, a semilunar wedge-shaped horse-hair pad, three inches broad and three-quarter inch thick at the base, should be placed immediately above the patella over the plaster, and the hollow of the ham carefully filled with cotton wadding. Then a figure of 8 bandage being applied so as to press the pad well downwards, the roller is continued up to the groin. I prefer rolling the thigh bandage in the way described to the ordinary method, from above downwards, as I believe it is less likely to be deranged, and the elevated position of the heel, the figure of 8 round the knee and the plaster prevents the quadriceps muscle from acting on the upper fragment. The bandages being adjusted, I now take a piece of the strongest pasteboard, sufficiently long to extend from the great trochanter to the heel and twelve inches beyond, and of sufficient breadth to inclose three-fourths of the circumference of the thigh, knee, leg, and instep; and having thoroughly softened it in hot water (a convenient vessel for holding sufficient water is a hip-bath), as soon as it becomes sufficiently cool it is accurately moulded to the thigh, leg, and foot; and, in order to preserve its shape, a bandage is applied from the toes to the groin, and the heel is placed on a pillow. Next day, the bandage being removed, the edges of the splint are neatly rounded off with a shoemaker's knife, and it is lined with a layer of fine cotton-wadding. The splint is now permanently applied and tightened by a bandage wound neatly from the toes to the groin, or if the weather is warm a few straps, such as are used in bracing up the sides of a box splint, will be sufficient. Finally the leg is slightly elevated by placing a pillow under the heel. No danger of acting on the patella need be apprehended (as the whole lower extremity is one fixed piece) by the patient turning on his side or sitting up. If the bandages and splint have been properly adjusted it will not be necessary to stir them for a considerable time; indeed, in one case I only took them off three times during eight weeks.

"It will be observed that I place no pad beneath the patella for the following reasons:—

"1st. It is not required, as the lower fragment being not acted on by any muscle, has no tendency to be displaced.

"2d. A pad so placed is almost certain to tilt the superior edge of the lower fragment upwards and forwards. No danger of interfering with the circulation of the circumflex-articular arteries can exist by the plan of treatment above prescribed, as the bandage around the knee is not so tightly applied as to constrict them.

"If it is thought desirable (as I believe it is) to keep the knee fixed for a certain time after the patient is allowed to walk about, I know of no better splint for the purpose than can be formed by simply cutting the pasteboard of sufficient length to extend from the middle of the thigh to the ankle, and removing the foot-piece."

PART III—MIDWIFERY.

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

(A) CONCERNING PREGNANCY AND PARTURITION.

ART. 208.—*Ovarian Pregnancy: Delivery of the Fœtus per Anum: Perfect Recovery.*

(*Gesellschaft für Heilkunde.*)

A merchant's wife, aged thirty-five, of Berlin, was, as primipara, in 1856, safely delivered. In November, 1862, she had severe pain in the left hypogastric region, which showed an egg-shaped swelling. The catamenia ceased for nine weeks, but pregnancy was not made out. The patient was then seen by Dr. Hildebrant, who made the diagnosis of a pregnant (?) uterus, without, however, being able to give a decided solution of the question. At the next consultation, an entirely normal pregnancy was diagnosed by one physician, and denied by the other. In the seventh month of pregnancy the patient took a great many laxatives on account of constipation of the bowels. In the meantime, Dr. Julius Beer was called in, who examined the uterus very closely, and gave the opinion that the woman was not pregnant, but that an abortion had taken place some time before. The tumor in the left hypogastrium he did not find. On January 2d, 1864, after an almost colliquative diarrhoea, with very great pain, two symmetrical skull-bones, the parietal bones of a fœtus, were passed per anum. Pathological anatomy has shown that in such cases a sac is formed, which is united with a loop of intestine, whereupon this intermediate partition-wall is broken through to allow the bones to pass. The patient remains well, and without pain.

ART. 209.—*Prolapse of the Pregnant Uterus: Incision of the unyielding lips of the Os Uteri: Craniotomy, &c.*

By Dr. BRESLAU.

(*Schmidt's Jahrbücher*, No. 11, 1867; *Monatsschr. f. Geburtsk.*, Bd. xxv.; *Supplem-Heft*, 1865.)

The patient was a woman forty-three years of age, extremely deficient in intellect. Eight years before she had been delivered of her first child by the forceps, and during the labor the perineum was extensively ruptured, the rent extending to the anus; an almost complete deficiency of the perineum and a recto-vaginal fistula were produced by the lesion. In the month of April, when pregnancy commenced, the uterus projected downwards in front of the external genitals, and was placed between the thighs, and it is stated that the prolapse of the uterus, or of its lower part, continued until the end of the period, and disappeared spontaneously, for the first time, at the beginning of the labor on the day before the patient's admission. The movements of the child were felt four or five days before commencement of the pains, which first began on November 29th; on November 30th the woman was received into the lying-in institution. In an examination of the external parts the summit of the uterus was felt about a small hand's breadth above the umbilicus. The position of the child could not be discovered from without, and no foetal sounds were heard.

When a vaginal examination was made the finger came directly upon a large tumor, which was the head of the child pressed down upon the outlet of the pelvis; it was almost completely inclosed within the lower segment of the uterus, also forced downwards, and covered in this part by the wall of the vagina. The os uteri was seen and felt near the anus, it was of the size of a two-franc piece, and behind it could be felt the plicated hairy scalp of the child. The lips of the os were thickened and callous, particularly behind, and the os itself was consequently unyielding. As dilatation of the os uteri seemed to be almost an impossibility, in consequence of the altered condition of the parts, and as no change could be observed after long-continued watching, the following proceeding was taken for the purpose of preventing the occurrence of complete atony of the uterus, or of its permanent spastic contraction and rupture. Breslau transfixed with a curved needle the reflected portion of the vagina and the vaginal segment of the uterus, and on both sides of the anterior lip of the os uteri the needle was passed from above and in front, downwards and backwards. Two silver sutures were then passed through the punctured parts, and their long ends were pulled by an assistant. The portion of the os uteri between the needle-punctures was then cut through by an oblique incision, and afterwards five long incisions were made into its posterior surface. The presenting head of the child was then perforated, the brain was removed with the finger, and after the crushed head had been extracted with the forceps, the body and placenta quickly followed. After this the upper part of the uterus contracted favorably, but its lower segment hung down in loose folds as far as the external vaginal orifice. After the copious hemorrhage had been arrested by cold water, the edges of the incisions were brought together by eight silver sutures, after which the cervix uteri hung down in the vagina in the shape of a cone. The depressed uterus was then pushed upwards, and kept in that position by a plug and bandaging.

No bad symptoms were presented after the operation; on the twenty-sixth day after delivery the sutures were removed, the incisions were completely healed, and the induration had almost disappeared. Fourteen days later Breslau operated on the recto-vaginal fistula, the edges were vivified and brought into close apposition by three silver sutures; although the operation itself was successful, a cure did not ultimately result. Scanzoni's instrument was afterwards used for the prolapse of the uterus.

ART. 210.—*Case of Passage of Air into the Veins during Labour.*

By Prof. OLSHAUSEN.

(*Monatsschrift für Geburtskunde und Frauenkr.*; *Vierteljahrsschrift für die Praktische Heilkunde*, 1867.)

The patient was a multipara, aged twenty-eight years. She was in labor with twins; the progress was slow in consequence of the incomplete dilatation of the os uteri, which in twenty-four hours after the commencement of the pains, admitted the passage of only a single finger. The uterine douche was then applied, rather by way of trial than for any precise indication for its use. Water of the temperature of 30° R. was injected into the vagina by the usual apparatus. The condition of the os uteri persisting, the injections were repeated twice, and at the third time the douche was given by a midwife without any medical assistance; about eight minutes after the passing of the tube the patient complained of great pain; the tube was at once withdrawn; the woman raised herself up in bed, but immediately fell back senseless, panting for breath, and distorting the muscles of the face. Death occurred within a minute. The physician who was first called to the patient, felt, on placing his hand over the lower part of the abdomen, widely diffused crepitation.

The post-mortem examination presented the following appearances:—left side of the heart firm; the right side, on the contrary, was soft, and felt somewhat like a piece of intestine with thick walls. The coronary arteries contained a quantity of air-bubbles, which could be seen glistening through the visceral

layer of the pericardium. The left side of the heart was empty, the right side contained a small quantity of very frothy blood. The uterus was of a dark reddish-blue color and very large. At all parts of its outer surface crepitation could be felt on pressing it with the hand. Under the peritoneal covering could be seen a number of small vessels containing numerous bubbles of air interrupted here and there by accumulations and columns of blood. The right broad ligament of the uterus was distended with air, and this intercellular emphysema extended from the ligament through the retroperitoneal fold as far as the inner border of the right kidney and reached nearly to the lower surface of the liver and the ascending vena cava, which vein was enormously dilated (being at the least an inch in diameter). When held to the light, large clear spaces of air could be seen separated by dark masses of blood. Small quantities of air were also present in a few veins of the lower extremities. The uterus was opened by a longitudinal incision in the middle line, as in the Cæsarian operation. One placenta was found situated on the left side of the front wall of the uterus, and below it was the head of the child. This placenta was close to the incision, although not involved in it; its right margin, together with a small segment of the organ itself, was detached from the uterine surface. The placenta of the second foetus was situated on the right side of the posterior surface of the womb, it was in the greater part of its extent detached, and between it and the inner surface of the womb there was a regularly-shaped pouch. There was no effusion of blood. The membranes of both foetuses were uninjured and plentifully supplied with liquor amnii.

In this case death was undoubtedly caused by the passage of air into the bloodvessels, and this air was certainly first introduced into the veins of the placenta by means of the injection-pump. This accident most probably had been caused by the nozzle of the douche-tube having been inserted not merely into the vagina but into the cervix uteri, and thus air sucked up by the water was injected into the uterine cavity.

ART. 211.—*Two Cases of Laceration of the Uterus.*

(*Schmidt's Jahrbücher*, No. 1, 1867.)

1. *Attempted Delivery by the Forceps: Escape of the Child into the Peritoneal Cavity.* By Dr. Werner.¹—The patient, forty-five years of age, and the mother of four children, was about four years ago delivered of her last child with much difficulty by the forceps. On October 26th, 1858, in the afternoon, after the pains had lasted for fourteen hours, Dr. Werner was called in. The head was presented but placed obliquely, so that during the pains it was not forced towards the pelvic outlet, but into the right hypogastrium. At first the forceps could not be easily applied, and always slipped off when much traction was exerted. When they were at last firmly fixed the head could not be moved with the strongest exertions, and the attempt to use the blade of the instrument as a lever was also unsuccessful. The patient was now allowed to rest for a time, but soon afterwards she suddenly cried out "that something had given way in her inside," and then a large movable body was felt in the upper two-thirds of the abdomen, whilst separated from this, the uterus could be distinguished in the left hypogastric region as a hard, round ball of the size of the foetal head. The uterus had undoubtedly been ruptured, probably in consequence of considerable contusion produced by the forceps; and the child had, during a pain, been expelled into the abdominal cavity. Dr. Werner did not perform the Cæsarian operation, as the child was not alive. On the following morning the mother died.

On post-mortem examination a rent was discovered in the front part of the cervical portion of the uterus. The posterior wall of the uterus was so much thicker than the anterior one, that a fibrous growth was believed to be present there.

2. *Spontaneous Rupture of the Uterus.* By Senft.²—the patient, thirty-eight

¹ *Zschr. f. Wundärztz u. Geburtsh.* xix. 2, 1866.

² *Würob. Med. Zschr.* vii. 1866.

years of age, had been delivered naturally of eleven living children : but at each confinement some pain had been felt in the region of the symphysis pubis. The last pregnancy had proceeded favorably up to the 20th of September, 1865, when, at seven in the morning, the liquor amnii was discharged without any previous pains. These, however, soon came on, but the woman continued to perform her domestic duties. At nine o'clock the midwife found the os uteri dilated to the size of a crown-thaler, and the head of the child was felt in the first position. In the course of the labor pain was again felt in the symphysis pubis. At ten o'clock severe pain suddenly attacked the abdomen, especially on the right side, and it radiated to the upper part of the thigh. The labor-pains at once ceased, the patient became very pale, and had repeated fainting fits ; the face and extremities also were cool. The form of the lower part of the abdomen was much altered ; between the navel and the symphysis it was drawn in, and above and on both sides of this depressed portion it was arched forwards.

The seat of this depression was very painful ; here could be felt on pressure the elbow of the child ; and under the globular abdominal swelling on the right side, the buttock. On the left side there was obscure fluctuation, whilst directly above the umbilicus the feet could be indistinctly felt. Fœtal heart sounds, and uterine souffles could not be heard. On examination by the vagina the head was felt in the first position, it could be moved upwards by a moderate pressure of the finger ; but this brought on copious hemorrhage. As soon as the pressure ceased the head returned to its former position, and the bleeding was diminished. There was no swelling on the head of the child. The vaginal examination did not cause pain. The woman became worse, the extremities and face were cold and covered by perspiration ; pulse was very small and frequent, the mucous membrane very pale, and there was much anxiety with restlessness. The labor-pains did not return—the symptoms of internal hemorrhage increased in intensity. Ether and hot wine were administered internally, cold was applied to the abdomen, and the extremities were enveloped in warm flannel. The case was undoubtedly one of rupture of the uterus ; Cæsarian section was not performed, as the child was not living, and the mother was so near death. At three o'clock in the afternoon convulsions came on, and the woman soon succumbed.

Autopsy, twenty-four hours after death.—Much gas was given off whilst cutting into the abdomen. As soon as the cavity was opened, the back of the child was seen, the buttocks were on the right side, the feet in the centre ; and below these, at a part corresponding to the depression of the front abdominal wall, was the right elbow ; the membranes and the placenta filled with blood and coagula, were placed in the left hypochondrium. The womb, as large as a man's head, contained a quantity of coagulated blood and the head and left arm of the fœtus, which was inclosed by the lips of a rent which existed in the anterior wall of the organ. In the peritoneal cavity there was a quantity of blood, both fluid and coagulated. The rent extended from above, on the right side, downwards and to the left into the cervix, its lips were jagged, and, together with the cellular tissue, were stained with blood. The uterine tissue at the fundus was thick, but in the front wall, and especially at the lower third, it was very thin. The place of insertion of the placenta was high up on the right side. On examining the tissue of the uterus under the microscope several patches of fatty degeneration were discovered.

The cause of the ruptured uterus in this case was due to the extremely uneven development of the substance, evidenced particularly by the thinness of its anterior wall, and to the fatty degeneration of the uterine tissue.

ART. 212.—*Case of Rupture of Uterus and Vagina.*

By JOHN BRUNTON, M.A., M.D.

(*Glasgow Medical Journal*, January, 1867.)

Rupture of the uterus is an event that fortunately is not often met with in private obstetric practice. When it does happen, it is a lamentably fatal

occurrence both to mother and child. More so to the former when the rupture is large, and through the uterus, vagina, and peritoneum.

The following case is interesting on account of the comparatively short labor, extent of rupture, and the duration of the mother's life after so serious a lesion :—

"On Saturday morning, November 10, 1866, at 11.30," Dr. Brunton says, "I was asked by Mrs. B., midwife to the Royal Maternity Charity, to deliver by forceps Mrs. G., who had been in labor about twelve hours.

"The reason assigned to me for instrumental delivery was, that the head of the child was at the outlet, resting on the perineum, had been so for some time, that the regular labor-pains had gone off for an hour or two, but were succeeded by a continuous and severe pain in the abdomen.

"Having some urgent cases to attend to, I said that after I had visited them I would come and bring my forceps. She went back immediately to wait with the patient until I came. On my arrival at the house at 12.15, I found the midwife present, who stated that no progress was being made, but quite the reverse, and that there was some discharge of blood per vaginam. On examination, I found the os uteri completely dilated, the liquor amnii drained off, the head of the child presenting at the brim of the pelvis, instead of at the outlet, as stated. On inquiring again, the midwife stated positively that the head was at the outlet at 9 A. M., and up to the time of her coming for me (11 A. M.)

"On account of the discharge of blood (fearing placenta prævia) I searched for the placenta, but could not find it. On examining the abdomen I found it very tender to the touch, and relaxed, the uterus and child lying down and forward over the pelvic brim, as if there was anteversion of the uterus. But more careful manipulation made it manifest to me that the limbs of the child were too easily felt through the abdominal wall. I then examined the mother, whom I found pale, flabby, weak, pulse 56, of moderate force. She lay on her left side, still, and groaning often with pain, which she said was continuous. She had not been sick.

"*History.*—She was thirty-four years of age, had had thirteen children, this being the fourteenth. Nine had been born at the full time, and four at six or seven months. She had always had lingering labors. All had been natural, none requiring instrumental or other aid.

"During present pregnancy she had had no pain, rigors, fever, or any particular disease—only she did not feel as strong as usual. For three weeks she had symptoms of approaching labor, with vaginal discharge of a brownish color, and watery, but no regular labor-pain until the night previous, when she sent for the midwife, who visited her, but did not deem it necessary to wait. Labor went on gradually, and at 4 A. M., while standing at the bedside, she had a severe tearing pain, which made her scream out and feel faint; she then got into bed, and at nine o'clock sent again for the midwife.

"Taking into consideration, 1st, the recession of the head; 2d, the cessation of labor-pains; 3d, the discharge of blood; 4th, the state of the abdomen, and the easy discernment of the child; 5th, the state of the mother (faint, &c.); I came to the conclusion that there was rupture of the uterus, and escape of the child into the abdomen. Having ordered some brandy and milk to be administered, I sent for Dr. Hall Davis, who came about 2 P. M., and soon confirmed my diagnosis by introducing his hand into the vagina, where he found a head presentation at the brim of the pelvis, and, by passing his hand further, discovered a large rent in the centre part of the uterus. As the head presented, an attempt was made to use the long forceps, but only one blade was applied and then withdrawn. It was deemed better to turn the child. Dr. Davis did so, removing the placenta first, which came down through the rent into the vagina. The child, a male at eight months, was dead, and had a considerable caput succedaneum.

"Dr. Davis found the bowel (which he returned into the abdomen), within the uterus. Pulse 72. Skin clammy. Was ordered—laudanum (m L), brandy, milk, and beef-tea; and to be kept perfectly quiet.

"At 3.15.—Pulse, 56. Treatment as before.

"At 5.—Pulse, 60. Respiration, 25, quiet; no pain or bleeding. The same treatment continued.

"At 9.—Ditto.

"At 11 o'clock on the following day the pulse was 85. Respiration, 25. Treatment continued.

"At 12.30.—Pulse, 100. Respiration, 30. Skin warm and moist; can converse well. Abdomen tympanitic; lochial discharge moderate. Catheter to be used.

"November 12, at 12 o'clock.—Condition the same as yesterday. No vomiting or distress.

"At 3.—Pulse, 116. Respiration, 25. Enema of soap and water to be administered to relieve bowels.

"November 13.—Much in same state, though weaker. Enema acted well.

"6 P. M.—Sinking, pulseless. Continued gradually to sink, and died at 3 A. M., on the 14th, having lived three and a-half days after delivery.

"*Post-mortem examination*.—Thirty-six hours after death:—Externally no signs of decomposition; the abdomen (the only region examined) much distended. Bowels distended with flatus, and red in color, covered over with recently effused lymph, and signs of peritonitis very abundant. Uterus contracted, and in its natural position. Bladder empty.

"A large longitudinal rent, about six inches long, was found on the posterior and right side of the uterus, commencing at its middle, and extending down through the cervix and upper portion of the vagina—edges ragged and softened. Only a small quantity of blood was present in the abdomen, in the immediate neighborhood of the uterus. The rent was large enough to admit the hand easily, which could be passed down from above into the vagina. The placenta was healthy, with the exception of a little calcareous deposit on the uterine surface.

"The child appeared to have but recently died."

ART. 213.—*On Incomplete Abortion.*

By Prof. BRESLAU.

(*Wien. Med. Presse*, vii. 1866; *Schmidt's Jahrbücher*, No. 1, 1867.)

By incomplete abortion, Professor Breslau means that form of premature loss of the ovum in which a part of it only, and not the whole is expelled, the remaining portion being retained within the uterus for an indefinite period of time. Cases have been observed where incomplete abortion occurred during the early weeks of pregnancy, and up to the time of the formation of the placenta, and in which a part of the ovum remained behind for a period of time extending over not only hours and days, but weeks, and even months.

The most important symptom of a case of this kind is hemorrhage, which may present itself either before or at the commencement of the abortion, or some time afterwards. After the expulsion of the ovum bleeding may still go on and persist for months, or it may reappear after long intervals; it is seldom very excessive, and is in most instances either unheeded, or passed over as a profuse menstruation. The next important symptom is a muco-purulent, or muco-sanguinolent discharge from the genitals, which sometimes contains shreds and pieces of membrane, and has a putrid odor. At a later period slight labor-pains are experienced by the woman, and frequently a sense of weight in the pelvis, due to pathological changes in the uterus. Finally symptoms of septi-cæmia or pyæmia may present themselves. The diagnosis is generally difficult; as the previous existence of pregnancy is often denied, and an examination of the uterus can alone give satisfactory information. Enlargement of the organ can be made out by external examination of the abdomen in those cases only where the abortion has taken place between the second and third months of pregnancy, or later. A combined internal and external examination is generally requisite for the determination of the position and size of the uterus. In some cases, on making a vaginal examination, the surgeon may find the os uteri

and the cervical canal so patent as to admit with ease one or two fingers, with which the spongy and broken-down remains of the ovum can be felt near the os uteri internum. These are probably cases in which the pregnancy was interrupted, at a later period of its course, after the formation of the placenta. In some cases, however, it is only just possible to pass the finger with great difficulty into the uterus, and even then the further examination is rendered very difficult by the elevated position, and by the mobility of the organ. Breslau, in the presence of such difficulties acts in the following manner: applying one hand over the lower part of the abdomen, he endeavors to press down the uterus over the point of the middle finger of the other hand, which he introduces into the vagina and endeavors to pass through the cervical canal. If this plan be unsuccessful, he draws down the vaginal portion of the uterus as far as is needed; and if the os uteri and the cervical canal be found too contracted to admit the finger, he then generally inserts a cone of laminaria (stem of the sea-tangle) or of compressed sponge as far as the os internum, for the purpose of producing artificial dilatation. The laminaria is allowed to remain from six to twelve, the compressed sponge for eighteen hours, and after the removal a digital examination is again undertaken. But even after this proceeding the result of the digital examination will sometimes be doubtful. The uterus may be irritable and contract spasmodically on the introduction of the finger, or the remains of the ovum may be placed so high up as to be only just within reach, so that the surgeon may begin to doubt whether he has not to deal with a uterine polypus, or a fibrous tumor. The only thing to be done in such circumstances is to pass up a pair of dressing forceps by the side of the finger, and to pluck off from the body some small pieces, which should be put under the microscope for examination. The most decisive test is the presence of chorion-tufts; for reliance cannot be placed upon the appearance of remnants of decidua alone, since these may exist also in cases of dysmenorrhœa membranacea.

Breslau does not rely much upon internal remedies in the treatment of incomplete abortion. *Secale cornutum* is useful only in recent cases, or when the remains of the ovum lie loose in the uterine cavity; hæmostatics, also, can give but temporary relief. The essential indication is the removal of the rest of the aborted ovum, and this should be undertaken as soon as the diagnosis has been made out. If the index and middle finger can be passed together through the cervical canal, the surgeon may at once succeed in relieving the uterus, provided that this organ be pressed downwards by the other hand placed over the hypogastric region. When only one finger can be inserted, and when this after being pushed through the os internum cannot find any space to work in, or when the remaining portion of the ovum is situated at the fundus of the uterus, Breslau introduces over the finger a pair of dressing forceps about twenty-three centimetres in length, and with this removes the loose body by continued movements of twisting and dragging. But it is not always possible to work with finger and forceps together within the uterus, and then Breslau incises the lips of the os internum. The effect of the operation upon the hemorrhage is very striking. The other symptoms also soon disappear; and Breslau has never known metritis or peritonitis to follow.

His after-treatment consists in keeping the patient perfectly quiet, and in ordering an infusion of *secale* with sulphuric acid and cold uterine douche. After a few days he administers steel.

ART. 214.—*Five Cases of Spontaneous Version.*

By Dr. V. FRANQUE.

(*Wien. Med. Presse*, vii. 1866; *Schmidt's Jahrbücher*, 12, 1866.)

CASE 1.—In a multipara who had just been delivered of a live child with a head presentation, a second foetus was found to be present, the left shoulder of which could be felt. During the preparations for turning strong pains came on, the shoulder was withdrawn, and the buttock presented. The membranes were

ruptured, and the child expelled; it was in a very feeble condition, and died within a short time.

CASE 2.—In a woman who had had four children the left arm was first presented. When Franque arrived, some hours later, the buttock was found projecting from the os uteri. In consequence of the slow progress of the labor extraction by the forceps was necessary. The child came into the world alive. The woman died in child-bed from endometritis.

CASE 3.—In this case also there was a shoulder presentation, with descent of the arm and funis; this condition was converted by spontaneous version into an imperfect foot presentation. The child was dead.

In the last two cases the report of the midwife on the original presentation was confirmed by the appearances presented by the arms after birth. These cases also prove, that spontaneous version may be accomplished after the membranes have been ruptured.

CASE 4.—In a primipara there was a cross presentation, the membranes were intact, and a hand and an elbow could be felt. For five hours the pains were tolerably strong, although the os uteri was not sufficiently dilated for turning. When the membranes were ruptured both feet could be felt presenting; normal foot presentation. The child was alive.

CASE 5.—In a multipara a lateral placenta prævia was discovered, and near it the back and projected arm of the fœtus. The hemorrhage was not excessive, and the pains were strong. The vagina was plugged. Half an hour later, when the plugs were removed, there was an imperfect breech presentation. The labor was slow, manual extraction was resorted to, and the forceps applied. The child lived.

In three of these cases spontaneous evolution was doubtless favored by the spaciousness of the uterine cavity; also in the case of twins by the large amount of liquor amnii. In two cases it appears to have been brought about by the extreme dilatation of the lower segment of the uterus, which is so often found in multipara.

ART. 215.—*On Hydatidiform Degeneration of the Fœtus.*

By JOHN K. SPENDER, M.B. Lond., Surgeon to the Eastern Dispensary, Bath.

(*Medical Times and Gazette*, March 23, 1867.)

Dr. Spender relates the following case which came under his observation a few years ago :—

"On Sunday-afternoon, June 21, 1863, I was asked to visit a young married woman supposed to be in labor at the full term, whose medical attendant (Mr. Chilton) was otherwise engaged at the time she required his services. On visiting her I found that a copious flooding was going on, and a vaginal examination led me to imagine that I had to deal with an ordinary illustration of placenta prævia. I plugged the vagina with the best material at hand, ordered the patient an ample supply of nourishment, and promised to call again in an hour. Within that time I was again summoned, and found that the renewal of the flooding had forced out the plug; but a fresh examination did not lead me to alter my diagnosis, and I handed the case over to Mr. Chilton at this moment as an undoubted example of placental presentation. I was obliged to leave altogether, in order to attend an urgent medical case, but I gave a warning of danger to the husband before departing from the house.

"At ten o'clock the same night I learnt that the woman was dead. I went down to the house once more, and there the following particulars were told me: Soon after I left in the afternoon Mr. Chilton discovered that the case was not one of placenta prævia, and that there was about it something altogether unusual. He was unable to arrest the flooding, and therefore he sought the help of a highly skilled obstetric friend. To empty the uterus of its contents, whatever they were, was a clear necessity, and with much labor this was accomplished. A large chamber-vessel was filled with hydatidiform substance, which was kept for my inspection. Death appeared to have resulted from shock and

from the exhaustion produced by loss of blood. Everything was done for the patient that obstetric science could devise.

"It is possible that if this woman had been examined in the last month of pregnancy with special reference to hydatidiform degeneration of the ovum, a refined diagnosis might have announced the fact. The principles of this diagnosis are well given in Dr. Tyler Smith's text-book of midwifery, but any practitioner may be forgiven for being unprepared for a pathological emergency which is happily so rare."

ART. 216.—*Concealed (almost entirely) Accidental Hemorrhage at Full Term: Forceps: Post-Partem Hemorrhage arrested by Ether Spray externally: Recovery.*

Under the care of Dr. BRAXTON HICKS.

(*The Lancet*, February 19, 1867.)

It was a noticeable feature in this case that the pulse was not at all increased in rapidity till the child's head was at the vulva, when it rose to 120 per minute, as might have been anticipated in cases of blood-loss, and at which rate it continued for some days. Dr. Hicks remarked that this was in keeping with what he had suspected in other cases—viz., that the extreme severity of the symptoms was greatly owing to the impression made upon the nervous system by the great tension of the uterus; in one case noticed by himself the peritoneal coat had been actually cracked. The effect of the ether spray was exceedingly good; as an elegant mode of producing external cold, it commends itself at once, to say nothing of the readiness and certainty with which it can act.

Mrs. D., aged twenty-one, primipara at full term. Having been busy washing the day before, she was taken at eight A. M. with a slight loss of blood, which soon stopped. At nine A. M. she was seen. The os uteri was not larger than a shilling, and the uterus seemed to be acting slowly. The pulse was then natural. As time advanced she became weaker; and was in a state of syncope at eleven A. M., with restlessness and marked pallor. This continued till half-past twelve, when Dr. Hicks saw her. The os was then the size of a five-shilling piece, thin, and dilatable. The head of the fœtus was pressed down firmly into it. The fundus of the uterus was large, tense, and firm. Much distress was evinced by the patient, with jactitation. The pulse was then about normal in beat, but weak, and on two or three occasions during the morning it had been nearly imperceptible. No bleeding externally was then going on. The membrane had ruptured two or three hours before. Dr. Hicks considered that there was a large clot retained at the upper part of the uterus, which was distending it, and pushing down the fœtus. He thought that with frequent stimulants and support she might be left without interference till the full expansion of the os uteri, upon the occurrence of which he advised employing the forceps gently to assist the uterus, now over-distended, and thereby enfeebled. This was done; and in about three hours, as she seemed improving, it was thought possible she might get through without assistance. However, no great progress ensuing, the resident obstetric clerk, Mr. Harwood, applied the short forceps, and employing gentle help, the child was soon born. A great quantity of blood and several large clots followed. Pressure was applied to the uterus throughout, and the placenta followed, with another large clot attached to its margin. The uterus then contracted well, but speedily relaxed. Hemorrhage reappearing, cold was applied externally by the *ether spray*. The uterus instantly contracted, and so continued.

ART. 217.—*A Case of Retention of the Placenta.*

By A. WOOD SMITH, M.D.

(Glasgow Medical Journal, January, 1867.)

Dr. Smith places on record the following case of premature labour at the sixth month, in which the placenta was retained for thirty-four days, and then almost spontaneously expelled.

"*History.*—Mrs. M. first consulted me on the 16th July, 1866, regarding her general health, which was in a very low state. She suffered occasionally from floodings, had colligative sweats, &c.; but her anxiety about herself arose chiefly from having had a miscarriage at the sixth month of pregnancy, a month previous to seeing me, and she was afraid that the after-birth was not removed. She felt a swelling above the symphysis pubis, had pain over the sacrum, and was troubled with a frequent desire to micturate. The floodings came on while she was quiet in bed, and a few days before seeing me she had a very severe one, and experienced slight bearing-down pains.

"As the miscarriage occurred hurriedly, a woman was called to her assistance, who professedly removed the placenta by introduction of her hand.

"Mrs. M. is the mother of three children; the youngest was sixteen months old at the time of her miscarriage, and she only weaned him a few days before that happened. After the period of quickening, at the end of April, she lost more or less blood, almost daily, on rising out of bed; these hemorrhages were unaccompanied by pain, but the severer ones were preceded by rigors. No foetal movements were felt for a fortnight before the miscarriage, and the female attendant considered the foetus had been dead for some time. Mrs. M. always felt the swelling in the left groin after her delivery. She appeared to me to be suffering chiefly from loss of blood, so I prescribed some quinine dissolved in the tincture of perchloride of iron. On the following day I examined her *per vaginam*, when I found the os uteri high up, and tilted towards the promontory of the sacrum, and the os internum firmly contracted.

"There was antelexion of the uterus. The frequent desire to micturate which she experienced might in part be caused by this.

"On gently introducing the uterine sound I found that it met with some resistance at about an inch beyond the os externum, and this I considered might be either by a clot, a portion of the placenta, or a polypus; but on account of Mrs. M.'s enfeebled health, I resolved for the time not to make any further exploration by dilating the os or otherwise, and recommended a continuance of the quinine and iron mixture, and the employment twice a-day of vaginal injections containing a solution of alum.

"Three days after this, at 2 A. M., I was hurriedly summoned to Mrs. M., owing to another flooding having come on. I found she had lost a considerable amount of blood, and the hemorrhage was still going on slightly. On examining I found the uterus had regained its normal position, that the cervix was so dilated that I could pass the fore-finger, and feel a soft mass protruding through the inner os. After effecting some slight further dilatation by means of two fingers, I administered ergot, whereupon strong uterine action was set up, during which I endeavored to assist the expulsion of the mass, but without much effect. Thereafter, the uterine action becoming less and the patient weak, I plugged the vagina through a speculum, gave an opiate, and obtained the advice and assistance of my friend, Dr. J. G. Wilson. On his removing the tampon, six hours after its introduction, the placenta was found lying in the vagina, the uterus well contracted, and normal in position. I syringed the vagina, first with tepid water, then with cold, re-introduced the tampon, and administered an opiate. There was no subsequent hemorrhage, and the patient has made a good recovery.

"The placenta was of firm texture, and having neither signs of decomposition, degeneration, nor absorption. It was three inches in diameter, and about five ounces in weight; the umbilical cord had been detached."

This case, Dr. Smith considers, is chiefly instructive, as illustrating the comparative harmlessness of a placenta being retained in utero for even thirty-four days; and the efficiency of natural efforts in its expulsion without the aid of more forcible, and possibly more injurious, measures. The freshness of the placental mass was also an interesting feature of the case.

ART. 218.—Puerperal Convulsions after Delivery: Recovery: with Clinical Remarks.

Under the care of, Dr. GRAILY HEWITT.

(*British Medical Journal*, January 30, 1867.)

We are indebted to Mr. T. T. Hughes, Obstetric Assistant, for the following report:—

Mrs. H., living in Little Drummond Street, applied for a maternity letter on the 26th November, 1866. Her age was thirty-one. She is the mother of seven children; she had no miscarriages. The catamenia were last seen in April, 1866. She was a delicate anæmic-looking woman. She had a severe attack of typhoid fever in the latter end of last summer, being then about five months pregnant, which considerably reduced her; and since that she had had no appetite, scarcely ever eating meat. But with all this she reached her full time. Her former labors had been natural.

Jan. 13, 1867.—The patient had all this day slight labor-pains, but they became more decided at 11 P. M., when she first sent for assistance. About 3 A. M. the following morning (Jan. 14th), the membranes became ruptured, the liquor amnii escaped, and hemorrhage immediately occurred to a very great and dangerous extent. The nurse says: "So great and sudden was the flow of blood, that the floor was literally covered." About 4 A. M., the child, which was alive, was born; and the placenta soon followed, without any further hemorrhage. The patient went on very well up to 8 A. M., when headache, retching, and blindness came on. These symptoms became worse, and lasted till 2 P. M., when an attack of convulsions occurred. The fit was epileptic in character. At first there was a quivering of some of the facial muscles; then the whole body became convulsed, and immediately afterwards completely rigid; the face unnatural; the lips livid. She foamed at the mouth, blood being mixed with the foam, from the tongue having been bitten. Then a long inspiration, and the attack was at an end. These fits recurred very frequently up to 9 P. M. She had fourteen in all. Mr. Hughes saw her at this time, and had the opportunity of observing one of these fits. The lochia were suppressed. It was with great difficulty that she could be made to understand and do what was told her. She passed her urine involuntarily; swallowed with difficulty. Cold was ordered to the head; and ten minims each of liquor opii sedativus, chloric ether, and compound tincture of lavender, every four hours.

Jan. 15th, at 1.30 P. M., Dr. Grailly Hewitt saw her, and found her completely insensible; uterus well contracted; lips dark; no stertor; and the fits still recurring occasionally. He ordered ice to the head; a binder to be tightly applied over the uterus; and enemata of beef-tea, eggs, and brandy, every two hours.

Jan. 16th.—Dr. Grailly Hewitt found that there was hemiplegia of the left side; pupils about equal, medium; patient in much the same state as yesterday. Mustard sinapisms were ordered to be applied to the nape of the neck three times a day; the enemata, etc., to be continued.

Jan. 17th.—She was much better; occasionally opened her eyes and looked about; and when a teaspoonful of wine was put on her tongue, it was swallowed with an effort. The same treatment was continued.

Jan. 18th.—She was improving; was becoming more conscious; swallowed pretty well. She talked reasonably for a short time, but soon began to wander. The brandy, eggs, etc., were taken in good quantity. The mustard poultices were ordered to be continued.

Jan. 19th.—She was decidedly better. She knew all around her; asked after

baby; ate and drank everything she could get. Hemiplegia was completely gone. She said she had slight headache.

Jan. 20th.—She complained of nothing, but felt exhausted.

Jan. 22d.—She was going on well. The urine was examined, but no albumen could be detected.

Jan. 23d.—She was seen by Dr. Graily Hewitt. The pulse was strong; her appearance quite natural. She ate well, but was very weak, and there was very little or no milk.

Dr. Graily Hewitt remarked, that the case now related presented several interesting features. The convulsions came on very shortly after delivery, in a woman previously very much debilitated, first by an attack of typhoid fever four months ago, and secondly by an extremely copious loss of blood, which occurred one hour before the child was born. The view he took of the case was, that the convulsions were due to the loss of blood. The brain was drained, so far as such draining is physically possible; and the impoverished condition of the blood favored the escape of the serum into the serous cavities of the brain, inducing blindness, retching, gradual loss of consciousness, convulsions, and coma. The transient hemiplegia showed that the effusion was greater on one side of the brain than the other. The convulsions occurring in connection with the puerperal state were not to be regarded as essentially different from convulsions occurring under other circumstances, though undoubtedly they were much modified by other special conditions then present. Very frequently the renal secretions were altered, and there was albuminuria, with presumed retention of urea in the blood. In the case above related, the urine could not be tested for albumen at the time; and it might have been present in this case, though absent when urine was obtained for examination a week later. Dr. Graily Hewitt related that he had directed the treatment, which had proved so successful in this instance, solely with regard to the anæmic state of the patient, believing that the indication was to restore the loss of blood as quickly as possible. The patient could not swallow; and the enemata of brandy, egg, etc., which were frequently administered, proved of the greatest assistance. The counter-irritation appeared also serviceable.

ART. 219.—Notes of a Case of Difficult Labor, due to Displacement of the Child's Arm.

By W. S. PLAYFAIR, M.D., M.R.C.P., Assistant Obstetric-Physician to King's College Hospital, &c.

(*British Medical Journal*, February 23, 1867.)

Dr. Playfair relates the following case:—

At 6 A. M., on January 10th, 1867, I was summoned to attend on Mrs. H., an out-door patient of King's College Hospital. I found that she had been in strong labor since the previous afternoon, when the membranes had ruptured. She was the mother of four children, all of whom were born alive; but her previous labors had been difficult and tedious. During the eighth month of pregnancy, she had had a severe attack of choleraic diarrhœa, which had greatly reduced her strength, a circumstance which probably accounted for the bad state in which I found her. The pains had been regular, strong, and forcing; and, the head being the presenting part, the gentleman in attendance anticipated a speedy delivery. The head progressed until it reached the floor of the pelvis, but it became arrested there, and made no further progress, although the pains continued strong and steady as before. Mr. Harding, the resident accoucheur, was sent for about midnight, and found that the head was in the third position, the anterior fontanelle being behind the left foramen ovale. By this time constitutional symptoms had arisen, calling for immediate interference. The pulse was 130, small, and feeble, the tongue was dry and black, and the comparative rapidity with which these unfavorable symptoms had shown themselves, was doubtless owing to the previous illness of the patient. Mr. Harding applied the forceps, but failed to move the head. He then requested

Dr. Fenn to see the case with him, who also made an unsuccessful attempt at delivery with the forceps. When I saw the patient, she was in a state that left no doubt as to the necessity of immediate interference. I found the anterior fontanelle behind the left foramen ovale, but on a lower level than the posterior. The margins of the orbits, and the root of the nose, were easily within reach of the finger. I therefore concluded that the cause of difficulty was the faulty position of the head, due to the want of flexion of the chin on the sternum. Dr. Leishman has well shown, in his work on the *Mechanism of Parturition*, how effectually such a malposition prevents rotation in occipito-posterior positions, and I saw no reason to doubt that it was the cause of the delay in this instance. As the forceps had already been tried, and had failed to move or rotate the head, I determined to resort to the practice so strongly recommended in similar cases by Dr. West, of Alford, and to attempt rectification of the malposition by means of the vectis. I accordingly passed it over the occiput, which I attempted to draw downwards, while upward pressure was made at the same time in front of the anterior fontanelle. The head, however, seemed firmly fixed and no efforts that I felt justified in using had any effect in moving it. I then introduced the forceps, and met with the same want of success as my predecessors. There was no resource but craniotomy, for the patient's condition admitted of no further delay: and I had the less hesitation in resorting to it, as the foetal heart was inaudible.

I accordingly perforated, anticipating that there would be no further difficulty when the brain was broken up so as to allow the skull to collapse. To my great surprise, however, the head remained as immovable as before, nor could I succeed in drawing it down with either the craniotomy forceps or the crotchet. Passing the finger as high as possible all around, I failed to make out anything which could account for this. It was evident, therefore, that there was some obstruction higher up, which was necessarily on the part of the child, as the pelvis was of ample size, and the patient had previously given birth to living children. I next proceeded to break up the calvarium as much as possible, leaving the bones within the scalp, and then, by traction on the orbits, which were easily within reach, brought down the face; as soon as I had succeeded in doing this, the head was expelled in two pains, and I found the child's arm displaced on the back of the neck in the manner described by Sir James Simpson.

It was evident that the obstruction had been caused by the arm being firmly caught on the brim of the pelvis, and lessening the head did not suffice to overcome the difficulty, because it did nothing towards dislodging the arm. As soon, however, as the face was brought down, the arm must have been pushed up by the ascent of the occiput, and the obstruction thus removed. Had the usual flexion of the head existed, I should doubtless have been able to feel the malposition of the arm; but, as it was, the faulty position of the occiput prevented the finger from reaching high enough to touch it.

When the diagnosis of such a case is made out, it would, in all probability, be sufficient to bring down the arm by the side of the head to insure natural delivery. This would, at least, prevent the possibility of the arm hitching above the brim of the pelvis; or, failing this, turning might be required, as in Sir James Simpson's case. The child in this instance was of unusual size. I had no opportunity of weighing it, but I do not think it could have been less than ten or eleven pounds. Had the child been smaller, it seems by no means impossible that the natural powers might have sufficed to overcome the obstruction; but the faulty position of the head doubtless had much influence in increasing the formidable difficulties of the case.

ART. 220.—*Two Cases of Puerperal Peritonitis without Lesion of the Uterine Organs.*

By M. HERVIEUX, Paris.

(*Gazette des Hôpitaux*, No. 54, 1867.)

CASE 1.—*General Peritonitis: Double Pleurisy: Death: Autopsy.*

B. (Marie-Jeanne), a seamstress, aged twenty-nine, was delivered of a live girl in the Hôpital de la Maternité, on March 18th, 1867. The woman was a multipara, married, and had resided in Paris for nineteen years. Previous pregnancies and deliveries had had a favorable course. From the commencement of her last pregnancy had been in indifferent circumstances; and for the last few months had suffered from cough accompanied by expectoration, and from abdominal pains. On the evening of March 19th had shivering and chattering of the teeth, followed by fever.

On the following day the fever persisted, tongue was dry and foul, no appetite, discharges normal.

March 22d.—Abdominal pains.

March 23d.—Pulse 112, skin moist; face flushed; tongue furred, red at the borders and apex; constant thirst; abdomen tympanitic, sonorous on percussion, tender at all parts and particularly over the epigastric zone. Uterus contracted and situated in the pelvic excavation. Discharges abundant, not fetid. The anterior abdominal region was cupped in twelve places; and poultices were applied sprinkled with laudanum.

March 24th.—Skin intensely hot, pulse 116, tongue red and very dry; no appetite, extreme and continual thirst, redness of left cheek, face moist, no restlessness, no delirium, but a feeling of lassitude. Respiration, 40, difficult and nasal. Abdomen distended and tympanitic, spontaneous pains and tenderness over the whole of its surface, particularly in the hypochondriac regions. Lochia of a yellowish color, less abundant, not fetid. Since yesterday there has been a sharp pain in the right side, also a friction sound and dullness on percussion over right side and back of chest. The back of the right half of the chest was cupped, and a mixture containing morphia and aconite was prescribed for the patient.

March 25th.—Pulse hard and full, 120; tongue dry and red. No vomiting. Abdomen tympanitic but painless. Cyanosis and oppressed respiration; a loud souffle on right side of chest and œgophony. Dullness in this region increasing more and more; the respiratory murmur was feeble and mixed with sibilant râles on the front and right side of chest. Patient complained of a pain on left side where there was dullness in front and considerable lessening of the vesicular murmur. The symptoms increased in intensity during the day, and at nine in the evening the patient succumbed.

Autopsy.—When the abdominal cavity was opened a liquid flowed away, which at first was of a reddish color, transparent, and mixed with purulent and apparently pseudo-membranous flocculi, and afterwards thick like milk from the accumulation of pus in the dependent parts. The flocculi were scattered over every part of the peritoneal cavity, and were observed on the intestines, the pelvic viscera, the sides of the abdominal cavity, and even the spleen and liver, over which the fibrinous material was spread in a thick yellowish layer, which had already commenced to form adhesions, on one side with the diaphragmatic peritoneum, and on the other with the peritoneum covering the intestines. Wherever this pseudo-membranous and flocculent pus had been deposited the contiguous peritoneum was thickened, inflamed, and the seat of injections more or less intense, which were arranged in arborescent forms visible to the naked eye. M. Ranvier examined these injected patches under the microscope and made out that the vessels situated in the sub-peritoneal cellular tissue were dilated and lengthened. The pseudo-membranous flocculi distributed so extensively over the peritoneum were entirely composed of pus and fibrine. The uterus still enlarged (the patient died seven days after delivery) measured 17

centimetres by 13. Its tissue was firm, of a pearly white color, with a slight rosy tint, no clots nor pus in the uterine sinuses, but only fluid blood. The internal surface of the uterus was covered by a reddish semi-fluid material which was not particularly fetid. The cervix was livid, infiltrated with blood as if ecchymosed, but its tissue was healthy and presented no traces of pus.

Sections were made in all parts of the uterus, particularly at its angles and at the insertions of the broad ligaments. No portion of the neck of the organ escaped the knife, yet notwithstanding this conscientious investigation it was impossible to discover in any part of the organ the least trace of any purulent deposit. The broad ligament, Fallopian tubes, and the ovaries were also perfectly healthy. The muscular fibres of the uterus were examined under the microscope by M. Ranvier, but presented no traces of alteration. The reddish discharge lining the inner surface of the uterus was found to be made up of large cells containing fat globules, blood-cells, a few pus globules, some large elongated cells apparently muscular fibres, and a mucous basis not miscible with water. The cells observed in this mucus were of every form and dimension, but this cellular polymorphism could be easily explained by the fact that all the elements of the inner surface which was wasting into detritus, were involved. At the part where the placenta had been attached, the muscular cells were found filled with fat, but there was no trace of gangrene, or even of phlebitis.

The liver was large, of a uniform reddish gray color, and had a fatty aspect. On section but a very small quantity of blood flowed away from a few points. The gall-bladder was distended with thick bile.

The stomach, at its greater end, presented a large patch of ecchymosis about eight centimetres in diameter. The spleen was of a claret color and soft. The kidneys were normal, though the pelvis of one contained some pus.

There was an effusion of reddish serosity into both pleural cavities, but to a much greater extent on the right side. There were false membranes, already organized, between the lobes of the right lung. The right lung, also, at its superior third, was of a greenish color, and a section made into this part showed the tissue to be softened and easily convertible into a thick fluid mass. This was evidently nothing more than a post-mortem softening caused by the maceration of the lung in the effused fluid which had been confined to this part by strong bands of false membrane. On the left side there was a similar softening of the lung at that part of its surface which was in contact with the liquid effusion, but to a much less extent than in the right. The two lungs, with the exception of some engorgement, presented no other morbid appearance.

The pericardium contained some reddish serous fluid. The right cavities of the heart contained a great abundance of blood-clots, some black, others fibrinous and pale.

CASE 2.—*General Peritonitis and Pleurisy on the Right Side.*

F., aged twenty-seven years, primipara, was delivered of a girl on March 31st 1867, in the Hôpital de la Maternité. Had not suffered previously from any severe illness, and the labor was a natural one. On the 2d day after her confinement the patient had a slight rigor, and from this date the pulse rose in frequency (from 90 to 100) and the uterus became somewhat tender. In the evening of April 6th, the pulse rose to 120, and the next morning the patient was in the following condition: Intense heat of skin; pulse 120; no headache; sleeps well. Tongue dry, red at its margins, and covered on its surface with a white coat. Loss of appetite; abdomen large, moderately sensible. The uterus could no longer be felt in hypogastric region. There was diarrhœa but no vomiting. The orifice of the vulva presented numerous sloughs extending into the vagina, some of a grayish color, others yellow and very fetid; the mucous membrane surrounding these sloughs was of a crimson-red color. Discharges grayish but not fetid.

April 8th.—Pulse small, 120; respiration, 36; absence of cough and expectoration. Restlessness and delirium. The patient professed to be better and wished several times to get up; from time to time she cried out. Skin hot and moist. Abdomen distended, tympanitic; not painful on pressure; nothing been

passed at stool since yesterday. Same grayish and gangrenous aspect of the sloughs on vulva. The delirium and restlessness continued during the day. In the evening the pulse rose to 130; all the symptoms increased in severity during the night, and on the following morning at seven o'clock the patient succumbed.

Autopsy.—When the abdominal cavity was opened there was an exit of a considerable quantity of thickish serous fluid suspending abundant purulent and pseudo-membranous flocculi. The intestinal peritoneum was scarcely altered, its surface was polished, and it presented neither increased vascularity nor adhesions. The convex surfaces of the liver and spleen, however, were covered by false membrane already organized, which were about a millimetre in thickness, and were so closely united to the diaphragm as not to be separated without difficulty. This false membrane was discovered under the microscope to be composed of globules of pus inclosed in fibrine. This latter constituent had in some places a fibrillar, in others a granular aspect. Beside the pus and fibrine, some epithelial cells were seen scattered here and there. The purulent flocculi had the same histological composition as the false membranes, with the addition of mucus.

The stomach and intestines were much distended and contained an enormous quantity of green bile of the consistency of syrup and resembling treacle in appearance. On account of this biliary hypersecretion, it became interesting to know the condition of the liver. This organ did not seem to be increased in size; its color was nearly like that of muscle; and not the slightest trace of yellow staining could be perceived by the naked eye. The gall-bladder was filled with bile, having precisely the same appearance as that contained within the stomach.

The liver, when examined under the microscope by M. Ranvier, presented cells free from pigment. The absence of biliary pigment is a fact the more remarkable as the quantity of secreted bile was so considerable. All the cells were well preserved, they contained several nuclei, and at the periphery could be seen some small drops of oil. The multiplication of nuclei, as well as the presence of fat, were not special points in this particular case; but they may be observed in all women dying in child-bed.

The uterus was examined with the greatest care, and presented no appreciable morbid change. Almost wholly contracted, it hardly measured 10 centimetres by 7. Its tissue lustrous, shining, and white, was everywhere intact. The neck of the uterus was, as usual, livid and ecchymosed, but otherwise healthy; the inner surface of the organ was lined by a reddish deposit, which, when scraped off by the scalpel, left the uterine tissue to all appearance free from every sign of lesion. The uterus was cut up in every part, but the existence was not revealed of any purulent deposit, or even of any blood-clot. All the uterine sinuses were empty. The ovaries were large but healthy; the Fallopian tubes were in a normal condition.

There was an abundant effusion of thick fluid mixed with pus and false membrane, into the right pleural cavity. The external surface of the right lung, and also the interlobular spaces, were occupied by false membrane, which was already organized. The lower lobe of the lung was livid and engorged with blood. On the left side of the chest, the pleura and lung were both healthy, with the exception of some congestion at the infero-posterior part of the pulmonary organ.

The pericardium was notably distended, and contained a large quantity of a pale yellow liquid. In the right ventricle there was a pale fibrinous clot very tough. In the left side of the heart another pale clot was found, occupying both the ventricle and the auricle, and extending for a distance of several centimetres into the aorta itself.

In the course of a clinical lecture based upon these two cases, M. Hervieux dwelt upon their importance with regard to the prevailing doctrines on the connection of peritonitis with the general puerperal condition, and in conclusion gave the following summary of his own views on this interesting question:—

1. Although the peritoneum does not readily become inflamed spontaneously and primarily, still there is no reason, either anatomical or physiological, why it should not be affected independently of any lesion of a neighboring organ, in the same manner as the pleura, the pericardium, and the meninges.

2. Though it be true that the peritonitis of lying-in women in the majority of cases extends from the inferior to the superior parts—that is to say, from the vicinity of the uterus and its appendages towards the abdominal regions above the umbilicus, yet there are well-authenticated cases in which the peritonitis, instead of spreading by propagation, attacked suddenly and at once all parts of the abdominal cavity, and other instances, much more conclusive, where the inflammation involved only the diaphragmatic peritoneum, and was quite free from any connection with the uterine organs.

3. Though the inflammatory products may be identically the same in ordinary peritonitis, and in puerperal peritonitis yet these products in lying-in women are certainly, all other things being equal, much more abundant, much more rapidly formed, and much more readily organized than those formed in ordinary peritonitis from strangulation, perforation, &c. The morbid process seems to obey some other law than that which presides over the production of the ordinary inflammation of the peritoneum.

4. If it be admitted that lying-in women are under the influence of a special form of poisoning, how can the possible pathological consequences of this poisoning be denied? If a puerperal pleurisy be accepted, an affection which certainly no one will charge with being necessarily connected with lesion of the uterus, why not accept a peritonitis, which might be developed under the influence of the same cause—puerperal infection.

ART. 221.—Case of Post-Partum Hemorrhage, in which the Ether-Spray was successfully used.

By JOHN BROADBENT, M.R.C.S., &c., Manchester.

(*British Medical Journal*, June 8, 1867.)

At half-past ten P. M. on April 3d, 1867, Mr. Broadbent was called to see Mrs. T., in labor of her twelfth child. He found the os uteri only slightly dilated, and the pains weak. The breech presented, and the child was born on the following morning, without anything unusual occurring. The placenta was adherent, and required the introduction of the hand for its removal. Profuse hemorrhage followed; and, though the usual remedies, including ergot, cold napkins to the vulva, &c., and introduction of the hand into the uterus, were employed, the bleeding continued, and the woman became almost pulseless, and was evidently sinking fast. The hand in the uterus moved about as if in a wet bladder, little or no contraction being excited by it. Mr. Broadbent applied the ether-spray to the hypogastric region, using the double jet; and very soon the uterus began to contract, and the hemorrhage ceased. There was no relaxation of the uterus after; and the woman ultimately made a good recovery, though very anæmic for some time after.

ART. 222.—On a Fatal Case of Rupture of the Uterus occurring at the Eighth Month of Pregnancy.

By R. DUNN, F.R.C.S.

(*Proceedings of the Obstetrical Society, Lancet*, May 18, 1867.)

On the evening of November 13th, 1866, Mr. Dunn was called to see Mrs. S., and on the evening of the following day she was delivered of a living child. It was her fourth pregnancy. The last confinement had occurred about twenty months previously, and the labor was natural and her recovery good; but in her first she had to be delivered by the forceps, and both in that and in the second had had adherent placenta and great hemorrhage. During a visit to Margate in August of the previous year, she passed a dead fœtus of about five months; there was no flooding, and no placenta followed; but from that time she was subject to strange feelings about the womb. When Mr. Dunn was first called on the present occasion, the liquor amnii had been suddenly discharged, and

there had passed a membranous substance resembling a piece of leather, and which Mr. Dunn took to be some relic of a former miscarriage. There were no labor-pains, and the os uteri was closed. The next evening labor-pains set in, and were attended with more than ordinary suffering. The os had become fully dilated, and the pains, though frequent and excruciating, were not effective. After waiting some time, there being no lack of room, but only of effective effort, a drachm of ergot infused in boiling water, with a dessert-spoonful of brandy was administered. Energetic expulsive pains soon followed, and after three or four such, the child's head was suddenly expelled into the world with severe pain and screaming. Some difficulty was experienced in extricating the cord from the child's neck, it being particularly short. No pain following, the child was assisted into the world, and the patient tightly bandaged up. She was faint and low, and after waiting some time, as no pains came on, the finger was passed along the cord to its insertion into the placenta, which was found to be firmly adherent. The hand was then passed through the os into the uterus, and a transverse rent in its posterior wall detected. Being extremely faint and exhausted, stimulants were freely administered and Dr. Robert Lee was sent for. He thought her in a dying state, and that unless she rallied there was nothing to be done. On a further examination, a loop of bowel was found to be protruding from the vagina, this was gently put back by Dr. Lee, and a warm napkin applied to the external parts. She had some sickness, and remained in such a state of collapse that her state seemed hopeless. Dr. Dunn remained with her all night. In the morning the protrusion of the bowel had much increased, and it was becoming black. About one o'clock she was seen by Dr. Tyler Smith, who pronounced the case hopeless, the protruding bowel being black and strangulated. She lingered for five days more, expelling between two and three yards of intestine before she succumbed. Dr. Tyler Smith was present at the autopsy, which revealed a transverse rent in the posterior wall of the uterus, in the interior of which the degenerated remains of a firmly adherent placenta were seen. No microscopical examination was made.

ART. 223.—*On the Umbilical Souffle.*

By Dr. A. CHARRIER, Paris.

(*Gazette des Hôpitaux*, No. 40, 1867.)

1. The phenomenon named umbilical souffle though rare, occurs more frequently than is generally supposed.
2. It is in practice a premonitory symptom of very great importance.
3. It indicates compression of the umbilical cord, and consequently an impeded utero-fœtal circulation.
4. The umbilical souffle may be intermittent or persistent.
5. Intermittence diminishes the seriousness of the prognosis.
6. Permanence of the souffle increases the gravity of the prognosis, particularly if alternate slackening and acceleration of the cardiac beats come on, and afterwards violent movements of the fœtus, followed by a diminution both in the rhythm and in the number of the fœtal pulsations.
7. When such symptoms occur, it is evident that the death of the fœtus is imminent.
8. When the souffle is intermittent, it is the duty of the practitioner to abstain from action and to wait; but he should watch attentively, by auscultation, the utero-fœtal circulation.
9. If the souffle be persistent, and the phenomena of slow action and acceleration of the cardiac pulsations of the fœtus, &c., are presented, the practitioner should step in and induce premature labor.
10. The umbilical souffle is frequently produced by an accidental shortening of the cord.
11. Accidental shortening of the funis is in direct relation to its length, for the longer the umbilical cord, the greater is its chance of becoming twisted

round one or more parts of the foetus, and so giving rise to the disorders just mentioned.

12. Accidental or natural shortening of the cord may be diagnosed in the last stage of labor by this sign:—an inversion of the fundus of the womb at the time of each pain, which inversion is reduced spontaneously after the cessation of the uterine contraction.

13. The anatomical proof of this incomplete inversion of the uterus may be found in the premature separation of the placenta at its central part, in the presence of recent clots behind this organ, and in the rapid expulsion of the after birth into the vagina almost immediately after the passage of the child.

ART. 224.—*On the Employment of Force in Obstetrics.*

By M. JOULIN.

(*Archives Générales de Médecine*, February, 1867.)

The problem of the application of artificial mechanical force for the termination of labor is much more complicated than might at first sight be expected. It is based upon a certain number of questions which ought to be examined separately; without this, the method cannot be rigorously appreciated.

The following are the chief results of the experience and observations of M. Joulin:—

1. By using an enormous force, and one which ought naturally to be rejected in practice, a reduction of five centimetres can be obtained in the diameters of the foetal head. During labor this reduction can hardly be carried beyond fifteen millimetres without exposing the child to the risk of an almost certain death. When the horizontal diameter of the head is reduced, the vertical diameter is elongated in proportion.

2. A reduction of fifteen millimetres is obtained with M. Joulin's *aide-forceps*, during labor, by means of a force varying from thirty-five to sixty kilogrammes. Perforation of the cranium allows this reduction to be increased in marked proportion, when it is insufficient for the head to pass through the contracted parts.

3. The average measurement of the biparietal diameter of the foetal head is nine centimetres; a child may therefore be brought into the world alive, through a pelvic outlet contracted to seventy-five millimetres, by a development of force lower than sixty kilogrammes. In the manual application of the forceps this result can only be obtained by the traction of two men representing a force of 120 kilogrammes.

4. In manual traction the muscular effort exerts its maximum of action for a very short time. It is made up of a series of rapid jerks, the power of which varies, in the course of two minutes, from twenty to sixty kilogrammes. Mechanical traction is progressive, sustained and regulated by a dynamometer; the maximum of action is not manifested before the end of the operation, and before an inferior force has disposed the foetal and maternal parts in reciprocal relation to each other.

5. The danger of force in obstetrics consists in the compression produced. M. Joulin's instrument, in accomplishing the same purpose with a diminished amount of force, reduces the compression, and consequently the amount of danger.

6. M. Joulin has collected 253 cases of cephalotripsy, representing 506 existences, taking into account the life of the mother, and that of the child; the general mortality reaches to sixty-five per cent. On the other hand, thirty-seven cases have been collected in which the employment of energetic manual or mechanical force was necessitated; in these cases seventy-four existences were concerned, and the general mortality was not higher than 43.2 per cent. This result gives a difference of 12.8 in favor of energetic traction.

M. Joulin's plan of bringing away the child by the application of instruments consists in first placing the ordinary forceps upon the foetal head, and then, during a pain exerting traction upon these by a cord passed through the slit in

each blade, and then brought out of the vagina and attached to an instrument called the *aide-forceps*. This instrument consists of a steel tube, about thirty-four centimetres in length, in which works a long screw furnished with a movable nut projecting externally. At one end of the tube are two long and broad fixed blades, which are applied over the tuberosities of the ischia of the mother, and serve each as a point d'appui for the instrument; at the other end is a handle by which the screw axis is worked. The two ends of the cord are fixed to a ring inclosing a dynamometer, and this ring is suspended upon the movable nut. By working the central screw of the *aide-forceps* the cord is extended and drags down the blades of the forceps, and at the same time, by being pressed through the holes in the blades, brings them together with a power increasing in proportion to the resistance to the passage of the head.

Three excellent drawings, with detailed descriptions, are given in M. Joulin's memoir.

ART. 225.—*On Rupturing the Membranes in Imperfect Dilatation of the Os Uteri.*

By Dr. MASSMANN.

(*Petersburg Med. Ztschr.* xi. 1, 1866; *Schmidt's Jahrbücher*, No. 3, 1867.)

Dr. Massmann ruptures the membranes in cases where the labor has lasted for twenty-four hours or longer, and where the os uteri, in spite of regular pains, has dilated but to a very small extent, and has maintained for some time the same size. This proceeding is indicated when the os uteri lies in the pelvic axis, when its lips are not swollen, when the head of the child has already passed into the deeper parts of the pelvis, when the pains are regular but not very strong, when no mechanical obstacle prevents the birth of the child, and particularly when no condition can be discovered accounting for the tardy dilatation of the os uteri except a deficient amount of liquor amnii and the consequent absence of an efficient bag. Dr. Massmann is convinced that this proceeding materially benefits the mother and does not injure the child. In cases of this kind, according to the author, soon after the membranes are ruptured, and a few drops of liquor amnii discharged, the pains become stronger, the os uteri dilates perceptibly, and in the course of one or a very few hours the labor is completed.

Dr. Massmann explains the result of this proceeding in the following way. The absence of a distended bag of membranes during a long and tedious labor may be accounted for either by a deficiency of liquor amnii, or by the communication between the upper and lower parts of the bag being interrupted, which occurs when the head at the commencement of the labor has passed into the lower part of the pelvis, and has been so closely encircled by the uterus that no liquor amnii can flow by. In this case the os uteri cannot be dilated by the wedge of distended membranes, nor can the smooth and flaccid membrane stimulate to any great extent the lower segment of the uterus, and induce vigorous contractions of the walls of this organ. This, however, is brought about after the membranes have been ruptured, for the head of the child then comes into direct contact with the lower segment of the uterus.

Dr. Massmann adduces Michaelis as the single authority in favor of such a proceeding. But Michaelis seeks for the cause of the retarded labor in an over-filling of the membranes, which may be due either to a large quantity of liquor amnii or to a smallness of the containing bag. It is stated that this over-filling hinders the outward passage of the bag, but the retarded labor may, however, be explained in instances of excessive amount of liquor amnii by the great distension of the uterine walls, and consequent impairment of their energy; and, in the second place, it is difficult to understand why in over-distension of the membranes without these being very large, the bag should not be forced as a wedge into the os uteri, and the uterine contractions should be deficient in vigor.

Dr. Massmann thinks that another cause may possibly exist in connection with that given above. In one case of retarded labor he found, besides a defi-

ciency of liquor amnii in front of the child's head, an adhesion between the membranes and the inner surface of the uterus around the os. The membranes were ruptured, and the labor was completed after six hours. In this case it is questionable whether the adhesion or the deficiency of liquor amnii had not the greater share in causing the retardation of the labor. Six cases are reported by Dr. Massmann in which the membranes were ruptured, and he is inclined to think, that in all of these there was some adhesion between the membranes and the inner surface of the uterus in the neighborhood of the os.

ART. 226.—Shoulder Presentation: Version in the Position on the Knees and Breast.

By J. G. BIGMAN, M.D.

(*American Journal of Medical Sciences*, October, 1866.)

On the 12th of August, 1866, I was called by Mrs. S. F., aged thirty-eight, in her sixth labor. Learned that the liquor amnii had been discharged two hours previously to my arrival, and found an arm in the vagina, together with a prolapsed and pulseless funis.

The pains were frequent and strong, and the shoulder was pressed firmly into the superior strait. Having no chloroform, and being four miles in the country, I determined to attempt version without the aid of an anæsthetic.

The patient was placed in the ordinary position for the operation of vesico-vaginal fistula. Found no difficulty in displacing the shoulder from its position sufficiently to introduce the hand. The force of the pains seemed materially diminished by the change of posture. After securing a foot I was surprised at the facility with which the version was accomplished.

Having twice previously been compelled to turn without the benefit of an anæsthetic, and giving due consideration to the degree of impaction of the presenting part, as well as to the size of the fœtus, &c. (this one weighing five and a half pounds), I have no hesitation in adding my mite of testimony in favor of the position named when turning is required.

ART. 227.—On the Production of Inverted Uterus.

By JAMES MATTHEWS DUNCAN, M.D.

(*Edinburgh Medical Journal*, May, 1867.)

Dr. Matthews Duncan, in concluding a valuable communication on the production of inverted uterus, gives the following brief account of the four kinds of uterine inversion that may occur:—

Spontaneous passive inversion occurs in cases of paralysis, or inertia of the whole uterus; the organ being large, its walls lax, and capable of being inverted by little force. Bearing down produces, in general, collapse and compression of the organ; but it may produce inversion if the depressing force is applied under favorable circumstances, and the inversion will be complete if the bearing down is strong and continued. Should the original condition of inertia persist, the neck not contracting around the inverted organ, then replacement will be at least as easily performed as inversion. It is to this category that I am disposed to refer the cases of inversion post-mortem, which Bœrner and Klaatsch have recorded.

Artificial passive uterine inversion demands little description. It is the kind of inversion commonly described by the older authors. It differs from the spontaneous passive inversion only in this, that foreign force replaces the bearing down. The foreign force may be applied from above by pushing, or from below by pulling the cord, or manœuvring with the placenta. It would be a more frequent occurrence than it is, were it not the case that the interference which tends to produce it also tends to bring on that general uterine action which prevents it. It is in all respects similar to the former kind. In both

kinds of passive inversion hemorrhage will probably occur if the placenta is separated, and the conditions of their production persist.

Spontaneous active uterine inversion is the kind which modern authorship is bringing more and more into notice as the most common kind. I have already said that I am disposed to think this tendency is being pushed too far. In this kind, paralysis of the fundus, or of a portion of it, probably of the placental portion, occurs. The state of the retentive power of the abdomen, or positive bearing down, leads to this portion projecting into the uterine cavity. It is seized by the adjacent contracting segments of the uterus, is pushed down and expelled through the os uteri into the vagina, or beyond the vagina. It is difficult of replacement, in consequence of the contraction of the uterus around the inverted parts.

Artificial active uterine inversion differs in nothing from the kind last described, except in this, that the inversion of the paralyzed portion is effected by pressure from above, or by pulling on the cord, or other interference from below.

It can scarcely be considered out of place to add, in conclusion, a few remarks on spontaneous replacement of an inverted uterus. It is almost useless to say that spontaneous replacement of the first stage of an inversion often occurs, and is accounted for by contraction of the inverted part, or by alteration of the condition of the retentive power of the abdomen changing an inversion into an elevation of the paralyzed portion of uterus. But spontaneous replacements of completely inverted uteri have been reported by Dailliez and others. The possibility of this spontaneous replacement has been denied. But I see no reason to doubt it. An inverted or opposite condition of the mechanism which produces spontaneous passive inversion may also produce spontaneous passive replacement, whether at an early or at a late period. Spontaneous active uterine replacement is inconceivable, because the necessary conditions being described generally, the same as those for spontaneous active inversion, cannot be supposed to exist.

(B) CONCERNING THE DISEASES OF WOMEN.

ART. 228.—*Anteflexion and Anteversion of the Uterus: Treatment by a New Form of Pessary.*

Under the care of Dr. GRAILY HEWITT.

(*British Medical Journal*, February 2, 1867.)

We had occasion to see the other day, at this hospital, a case of anteflexion of the uterus, which was being successfully treated by a novel form of pessary, of Dr. Graily Hewitt's contrivance. The instrument has to be fashioned into shape for use, as its form and dimensions must be altered and modified according to the length and curve of the vagina, and the width of this canal at its upper and posterior part. Dr. Graily Hewitt has, therefore, two different sizes of rings made, of copper wire, covered with gutta percha; by keeping them for a little while in warm water, they may be sufficiently softened so as to be easily altered into any shape. When one of them is required for use it is first squeezed from side to side, so as to render it oval, one extremity of the oval being made larger than the other in proportion to the ascertained width of the posterior part of the fundus vaginæ, where it is intended to lie. It is next compressed in an opposite direction to the former, in such a way as to make each side project about its middle, into a kind of nipple-like eminence. Care is taken that these projecting pieces are wide enough to allow full play to the uterus, the fundus of which is meant to rest between them.

The instrument, when thus moulded into the required shape, is well oiled, and then introduced into the vagina in an oblique manner, the mamillary projections being made to slide under the arch of the pubes by a dexterous depression of the end of the instrument held in the operator's hand. After the pessary has been introduced, the chief point to attend to is, that the uterus passes through it, and that the larger extremity gets well behind the cervix. The

mammillary projections push up the anterior wall of the vagina, and support on each side the body of the womb. The great advantage of the instrument is, that it reduces to a minimum the inconvenience resulting from the use of pessaries in general, namely, dilatation of the vagina. Dr. Graily Hewitt speaks highly of its employment; and, certainly, in the case that we saw ourselves, the patient, a young married woman, who had for months suffered from ante flexion of the uterus, and its attendant disagreeable consequences, hypogastric pain, sensation of constant bearing down, and inability to stand or move about during the menstrual periods, had obtained considerable benefit. Dr. Hewitt also states that his pessary is as useful in anteversion of the uterus; and he mentioned, *apropos* of this, a case which had lately occurred in his private practice, that of a lady who, for a long time, had been confined to her room, on account of an anteverted uterus, but who managed to walk down stairs and join the family circle at dinner, immediately after the introduction of one of his pessaries.

ART. 229.—*On the Intermittent Appearances of Intra-Uterine Fibrous Polypi.*

By M. O. LARCHER.

(*Archives Générales de Médecine*, Janvier-Février, 1867.)

M. Larcher in this memoir directs special attention to some peculiarities in the history of uterine polypi which have been rapidly passed over by writers on this subject. It is well known that the greater number of fibrous polypi which are developed in the uterus, have a tendency to escape at some time or other from the cavity in which they are at first confined. In some cases, certain fibrous polypi, the existence of which had not previously been suspected, may be rapidly expelled by the contractions of the uterus during labor, but generally it is by repeated efforts that they at length pass out of the uterine cavity. These attempts of the muscular tissue of the uterus to free itself of an incumbrance have not escaped the notice of attentive observers. M. Larcher thinks, however, that some important details on this point have been overlooked; and with the help of many clinical facts examines the following questions:—

1st. Is there any favorable period at which the uterus presents a greater tendency, and perhaps also more facility, to free itself of the organic product which exists in its cavity as a foreign body?

2d. When the process of expulsion has commenced, and the polypus has entered into the passage opened up before it, is its egress positively obligatory?

3d. Can a fibrous intra-uterine polypus, the existence of which has been made out owing to the dilatation of the neck of the uterus, cease, under certain conditions, to be accessible to the usual means of exploration.

A case is related of a woman, in whom, after frequent menorrhagia, a polypus projected through the orifice of the os uteri at a period after a menstrual epoch. Some days later the patient entered the Hôpital Beaujon, and when examined again nothing could be found. Finally, a few days afterwards, at the time of a menstrual epoch, another examination was made, and then there was clearly made out the existence of a tumor projecting through the vaginal orifice of the neck of the uterus. The first observer had recognized undoubtedly the existence of the tumor; the second could not find the smallest vestige of one, and it was only after an interval of some days that the polypus again became visible and accessible even to surgical applications. On the two occasions when the existence of the growth was recognized, its appreciable presence coexisted with a menstrual epoch; whilst its absence corresponded to the interval between two catamenial discharges. It seems, then, that the period of menstruation is favorable to the external appearance of polypi; and that, under certain circumstances, not so rare as are supposed, the effort of expulsion having been insufficient, the uterine contractions cease, the orifice of the neck closes, and the polypus is withdrawn, to appear again at the next menstrual epoch.

The coincidence of the menstrual epoch with the phenomena just mentioned

has already been observed and mentioned by Aran, Nélaton, Ramsbotham, and Lesfranc.

M. Larcher states that profit is to be derived from these facts, both in the treatment and in the diagnosis of uterine polypi.

Treatment.—Of all proceedings the surgeon can have recourse to, that of complete removal is the best indicated. If the polypus can be easily seized, or if the uterine contractions produced by the administration of ergot, together with dilatation of the os uteri produced artificially when there is occasion, render the growth more accessible, the presence of the menses is not a contra-indication. If the dimensions of the portion of the polypus which is presented do not seem to allow of its direct removal, it will be better to wait, to allow it to escape again, and to put off until the time of its next appearance, an operation which will, perhaps, be then better indicated. With regard to diagnosis, the knowledge of the intermittent appearances of a certain number of uterine polypi is important for many reasons.

It should make more reserved, in his opinion, the practitioner, who having proved to himself the existence of a polypus, and not being able to perceive it again, will be led to think that the tumor has passed away from the genital passages.

As a point of diagnosis, especially applicable to therapeutics, the facts mentioned in the essay should prevent the surgeon from postponing to a late period the time of operation, if the polypus be already accessible to surgical applications.

Finally, if a practitioner has clearly recognized the existence of a fibrous polypus projecting from the lips of the os uteri; and if another surgeon, proceeding to an examination at a later date, is not able to discover what the first observed, he should not infer too positively that his predecessor was in error. A third observer may find the polypus with all the characters noticed by the first, and he should not, in his turn, think that an error has been made by the second surgeon. Aran states that it has happened to him, to overlook in a case of this kind, a fibrous polypus which was afterwards recognized and removed by one of his colleagues.

ART. 230.—*A Case of Puerperal Eclampsia: Recovery.*

By C. B. SUCKLING, M. D., Senior Obstetric Surgeon, Queen's Hospital; Professor of Midwifery, Queen's College, Birmingham.

(*Medical Times and Gazette*, January 19, 1867.)

Dr. Suckling records this case, as he thinks it unique, and that the sum of obstetrical experience is made up of the narrative of such-like, and that it belongs to the category of those which are highly interesting to the accoucheur, not only because of the great mortality which attends them, but of the conflicting opinions existing concerning their nature, causes, and treatment.

"Mary E., aged twenty years, married, primipara, a healthy-looking woman, inclined to robustness, of sanguine temperament, and cheerful disposition; had enjoyed good health until her marriage. She supposed herself to be taken with labor-pains on December 1, 1866, at 10 A. M. I was summoned at 10.30 A. M., and found her in the following condition: The pains she suffered from were not, in my opinion, true labor-pains. This was subsequently confirmed on examination per vaginam. Her feet, legs, and thighs were enormously swollen from dropsical effusion; also the external organs of generation. Here, so great was the œdema that it was only with the greatest care and difficulty that an internal examination could be made. The labia resembled two huge collars of fat rather than their own symmetrical shape. The clitoris partook equally of the same degree of enlargement. The swelling was limited to the parts below Poupart's ligament, with the exception of a slight puffiness of the integuments of the face and orbits. There was thirst, quickness of the pulse, and flushed countenance, with no undue disturbance of the sensorium, no pains in the head, no spasmodic twitchings of the muscles of the face or legs, or any apparent signs of approach-

ing convulsions. The patient, with the exception of the symptoms mentioned, was calm and collected—the only anxiety she evinced was concerning the unnatural size of her lower extremities, which she stated had been gradually enlarging during the past few weeks. I could not obtain any quantity of her urine, which was much to be regretted, but it was described as being of a dark brown or smoky color. There being no signs of labor coming on soon, I prescribed cold spirit lotions to the head, leeches to the temples, and saline purgatives, requesting that the patient should be kept as quiet as possible, and that they should send for me as soon as the pains came on. The following morning at 9 A. M. a messenger was despatched to me in great haste. I found the patient in convulsions. Before their accession she had been very sick. The aperient medicine I had ordered previously had acted powerfully, and she had micturated freely in the bed. I at once made a vaginal examination, not without difficulty, owing to the violent unconscious resistance offered to the introduction of the hand; the os uteri was relaxed and dilated to the size of a shilling; the membranes entire, and the head of the fœtus in the first position. My friend and colleague, Professor Clay, whose valuable counsel I sought, agreed with me, that as there were no regular uterine contractions, and no symptoms indicative of immediate danger, it would be advisable to leave the case in the hands of Nature a few hours, until the pains should recur more frequently and regularly, and that on my next visit I should administer chloroform, and, if necessary, deliver the woman by artificial resources. At 11 A. M. the same day I was sent for, and found the patient almost comatose. This had been preceded by another attack of convulsions. She could be aroused to partial consciousness by shaking her well, or by dashing cold water on her face. On examining her, the child, placenta, and membranes were found in the bed surrounded by very little blood; the uterus was well and firmly contracted, but the mother still remained in the same semi-comatose condition. During my attendance she suddenly recovered from her partial lethargy, and became quite furious, with flushed face, quickened pulse, and bloodshot eyes. I at once placed her under the influence of chloroform to the degree of the first stage. She became tranquil immediately, and fell into a quiet sleep. There was scarcely any hemorrhage. After remaining with her some time, I left, with strict injunctions to the attendant that the room should be kept darkened and cool, and that she should be on no account disturbed. On my next visit—morning—she was still in the same state, but could be awakened by force. As the pulse was somewhat depressed, I ordered a little brandy and cold water to be given at short intervals—a stimulant which I would strongly recommend under such circumstances. In the evening she could be aroused easily, and answered questions put to her, yet somewhat incoherently. The following day she was better in every respect. The head was cool, the skin moist, the vessels of the eyes uninjected, the pulse normal in frequency and power, the bowels had been well moved, and the œdema of the legs and face had been very considerably diminished. The lochia were natural in color and quantity. After this period the patient made a rapid recovery, and on the tenth day from the commencement of labor, she might be said to be convalescent. She states that she remembered nothing of what transpired during the time her condition was so perilous; in fact, her mind then was a perfect blank. This oblivion, I may remark, is a noticeable feature after convulsive seizures of this kind."

This case is, Dr. Suckling opines, one of those which are to be attributed to congestion of the renal vessels from pressure dependent upon the puerperal state. Dr. Suckling observes that the patient had never had an epileptic fit, nor was epilepsy to be traced to any member of either her husband's or her own family. She had, therefore, no predisposition to the disease from this source: nor had she ever been intemperate either in eating or drinking; no mental emotion had ever given her a moment's disquietude; nor does it appear that atmospheric influence had any effect in producing the convulsions, as the situation of the patient's dwelling was healthy. It was not of epidemic origin, as there was no other case of the like nature in the district. Although Dr. Suckling had not an opportunity of examining the urine, or detecting the presence of carbonate of ammonia, he is inclined to think that there was some noxious material in it,

most probably albumen. To show that pressure of the renal veins does operate in the production of albumen, we have the undeniable testimony of Robinson, Meyer, and Frerichs. That the disease in this instance was not ascribable to Bright's disease, was proved by the absence of amblyopia, and even amaurosis. Here there was no abrogation of the functions of the retina, but simple albuminuria produced by pressure of the uterus on the bloodvessels, and consequent congestion of the kidneys. As soon as the pressure was removed by the birth of the child, we had total and rapid disappearance of the cedema and convulsions.

The following are said by Dr. Suckling to be the points of interest in the foregoing case: "The non-necessity of general bleeding by the arm; the supervention of the convulsions on the occurrence of uterine pains; the absence of any special or known predisposing cause, with the exception of the gravid state, and the non-plethoric condition of the patient; the existence of no epidemic disease in the locality. After the birth of the child we had none of the evils enumerated as so frequently supervening, such as loss of memory, giddiness, vertigo, headache, and other cerebral symptoms. There were no signs of peritoneal inflammation, to which the patients are especially liable after attacks of eclampsia; nor was there anything like an approach to renewed convulsions. We have also practical demonstration of the fact that the convulsions do not annul the muscular contractions of the uterus, and that labor may be terminated without the aid of manual interference.

"The action of chloroform had a marvellous effect in abating the mental excitement, and moderating the intensity of the convulsions. I believe its agency had chiefly to do in preventing a return of them, and that, by favoring the relaxation of the os uteri and soft passages, it facilitated the progress and natural termination of the labor. Professor Channing, Drs. Churchill, Skeleton, Braun, Professor Simpson, and M. Cazeau, all bear testimony in terms of high commendation of this anæsthetic in these cases. The last-named authority strongly recommends it when the os is very rigid, and the convulsions are persistent; it diminishes their frequency, and sometimes prevents their return."

ART. 231.—*Modifications of the Operation for Vesico-Vaginal Fistula.*

By M. GAILLARD, of Poitiers.

(*Archives Générales de Médecine*, Janvier, 1867.)

On November 20th, 1866, M. Gaillard read a paper before the Académie de Médecine detailing certain modifications proposed by himself and M. de la Mardière for the operation of vesico-vaginal fistula.

These modifications are three in number.

1st. The proceeding of paring the edges, "*procédé pour l'avivement.*" This stage of the operation has always been regarded as the most difficult one by surgeons, who have to avoid the accident of removing too much tissue on the one hand, and that much more inconvenient one on the other, of leaving on the edges of the fistula small portions of tissue covered by epithelium, which prevent union. The difficulty consists in not being able to distinguish along the cut surfaces, notwithstanding the separation of the edges and red color of the blood, the parts already pared from those not yet deprived of their epithelial covering.

The fistula being exposed, empty the bladder with a catheter, and wipe carefully the solution of continuity, then pass into the orifice and along the borders of the fistula a stick of nitrate of silver, which should be applied to the whole of the circumference. Inject immediately a solution of common salt through the fistula, and at once all the parts touched by the caustic, and which should be the portions required to be pared away, will acquire an apparent silvery-white color. By means of this guide, the necessary parts may be cut away with facility.

2d. Modification. The plates and metallic buttons are not used, for the following reasons: the more complicated the apparatus, the longer and more painful is the operation. The tendency of the tissues of the vagina to become

inflamed and ulcerated increases with the number of foreign bodies placed there. Metallic plates being hard cannot fail to irritate the mucous membrane. The wall of the vagina to which these plates are applied is not a level surface, it presents a number of varied and elaborate projections; transversely it forms an arch at the central part; taking it in its long axis, it forms a movable surface, convex forwards, which is brought downwards while the sutures are being applied, and ascends again as soon as the speculum is removed. The interrupted suture adapts itself admirably to this irregular form, and to the movements of the vesico-vaginal partition.

3d. Modification. It is stated by M. Follin "that when a number of threads are passed across a fistula, considerable difficulty is experienced in separating them one from the other." To obviate this, M. de la Mardière has conceived the idea of attaching to each end of the suture a small bead, and M. Gaillard, adopting and improving this idea, procured some small glass beads of the various colors of the solar spectrum; each suture is marked with a different color, the first thread carries two red beads, the second two orange beads, the third two yellow ones, and so on to the eighth, which carries two white beads, all being arranged in the order of the colors of the rainbow. The eight sutures being marked in this manner at both ends, it is an easy matter, taking the colors in converse order as white, violet, blue, green, yellow, orange, and red to distinguish the thread, and afterwards to twist them with Charnière's forceps according to the method of M. Mettauer. The ends of the suture are then brought out from the vulva and cut short. The tedious operation for vesico-vaginal fistula cannot but be simplified by these ingenious proceedings, which have been applied with the best success after extraction of stone from the female bladder.

ART. 232.—Remarks on the Use of Fused Anhydrous Sulphate of Zinc to the Canal of the Cervix Uteri.

By J. BRAXTON HICKS, M. D., F. R. S.

(*Transactions of the Obstetrical Society of London, 1867.*)

At a meeting of the Obstetrical Society, Dr. Hicks called attention to the employment of anhydrous sulphate of zinc, cast into sticks of various sizes and lengths, for the treatment of those states of the canal of the cervix uteri which require styptics, such as cervical leucorrhœa and turgid vascular conditions of the mucous membrane, frequently giving rise to menorrhagia. Dr. Hicks has for some years employed tannic acid bougies and tannic acid pessaries, and also nitrate of silver in small sticks, but he has not found them so efficacious as the sulphate of zinc. The sticks of fused sulphate of zinc can be used either by passing a full length stick to the inner os, allowing it to remain for a time, or a portion can be passed up to the upper part, and permitted to remain there altogether till dissolved by the secretions. Dr. Hicks prefers the latter plan, as its effects are more durable. It gives no pain worth consideration, and remains within firmly by the constriction it produces on the membrane. It may be employed twice a week.

ART. 233.—Plan for Cauterizing the Cervix Uteri.

By ROBERT BARNES, M. D., F. R. C. P.

(*Transactions of the Obstetrical Society of London, 1867.*)

At a meeting of the Obstetrical Society of London, March 7th, Dr. Barnes observed that at their last meeting he had mentioned a plan for cauterizing the cervix uteri by dipping a uterine sound several times into a strong solution of nitrate of silver, allowing the nitrate of silver to dry on the sound, thus giving it a coating; then, by introducing the sound into the cervix, and turning it round, you easily and efficiently effected your purpose. Dr. Barnes has had a rod made after the fashion of a uterine sound, for the purpose of cauterizing the cervix in the manner already described.

ART. 234.—*The Pedicle in Ovariectomy.*

(*British Medical Journal*, February 23, 1867.)

Dr. Joshua B. Graves, in describing an operation of ovariectomy in the *Philadelphia Medical and Surgical Reporter*, adds: The operation I consider a successful one, in every respect but one—in healing the external incision in the abdomen; part of the pedicle, by which the tumor was connected to the ovary, became adherent to the abdomen. This adhesion produces a slight stoop as she walks, and prevents her from standing perfectly upright; a defect which, however, she is rapidly overcoming.

ART. 235.—*Successful Removal of the Uterus, containing a Fibroid Tumor weighing 9 lbs. 1 oz.*

(*Gazette Hebdomadaire*, November 23, 1866; and *British Medical Journal*, February 23, 1867.)

M. Kœberle has successfully removed the uterus of a patient, aged thirty-seven, suffering with an abdominal tumor, complicated with ascites, for five years. It was believed to be a multilocular cyst of the ovary, and to this mistake the patient owes the operation and her recovery. After the abdominal incision and the escape of the ascitic fluid, the tumor was found to be composed of interstitial fibroids developed in the fundus of the uterus, extensively adherent to the pelvis on the left side. The adhesions and the cervix were secured by metallic ligatures, and the tumor cut away. As the ligature around the pelvic adhesion embraced a great thickness of tissue, the cut surface was carefully cauterized, and the wire removed. Little blood had been lost, and the wound was closed. A glass tube, four inches in length, was placed in the pelvic cavity, behind the neck of the uterus, so as to give free exit to any serous accumulation. The portion of the uterus beyond the ligatures was transfixed in three-points transverse needles, so as to keep the parts in apposition to the abdominal wall. No dressing was applied. The operation lasted an hour and a half. The patient recovered in three weeks, without a bad symptom. M. Kœberle has removed the uterus in six cases; three recovered; three died from hemorrhage.

ART. 236.—*Clinical Remarks upon Cancroid of the External Genitals of the Female.*

By Dr. LOUIS MAYER, Berlin.

(*Virchow's Archiv*, xxxv. 1866; *Schmidt's Jahrbücher*, 1866.)

It is well known that malignant tumors are met with in surpassing frequency among women; and that the cause of this is due to the frequent occurrence of cancerous growths in the female sexual organs. These organs, however, are affected in very uneven proportions—the uterus most frequently, next to it the mammae, then the ovaries, vagina, and vulva. The external organs of generation supply but a very small contingent to these affections; so that out of 266 cases of malignant disease of the female sexual organs, nine only are noted in which the vulva was primarily affected. From this rare occurrence, and from the difficulties which are so frequently presented to microscopical examination, the reason is explained why, in the small collection of observations on malignant growths of the vulva, an exact description of the form of the tumor is wanting. Mayer mentions four accurate observations which exist in Surgical Literature, all of which refer to cancroid: of his own nine cases, four undoubtedly, two in all probability, were instances of cancroid; two were cases of scirrhus; one was probably a form of sarcoma. Hence he draws the justifiable conclusion, that cancroid is one of the more frequent forms of tumor of the external generative organs of women. This cannot be a matter for surprise, for the genitals

present a very evident predilection for this form of morbid growth. Cancroid growths are developed, generally upon the labia majora, in most instances from but one, more rarely from several isolated foci. Warts or knots are formed, which are covered with more or less thickened layers of epithelium. In two of Mayer's cases this thickening of the epidermis had formed a callosity, and the epithelial hyperplasia had already existed for some time before the appearance of the tubercles. This thickening cannot be considered the commencement of the growth of the cancroid, for it has frequently been observed without anything of the kind having followed; although it is not to be doubted that this state of irritation favors the development of malignant disease. Mayer had in one case the opportunity of watching the course of the development of a cancroid growth through its several stages, from that of thickening to that of death. In this case the warty growths remained fixed in the thickened epidermis for months without undergoing any great change. They were of a yellowish color, the surface was granular, and they felt like hard, round tubercles. Their growth at first was slow; by degrees their color became red, and they commenced to secrete some fluid. The neighboring tissues then swelled, small erosions appeared upon the enlarging growths, and developed into round elevated ulcers, with hard livid margins, and of a dirty reddish color. These ulcers increasing on all sides, extended quickly into the granular organs; with one exception the vagina was always left unaffected, in the same way that cancroid of the vagina never extends beyond the carunculae Myrtiformes. In the case detailed by Mayer, a papillary projection presented itself from an ulcer; this gradually increased, until at last it formed a tumor of the size of an apple; it then underwent a process of softening, and was almost completely destroyed.

These several forms of cancroid plainly manifest themselves as specific new formations, but the species of a tumor can never be diagnosed without microscopic examination. Mayer found in his small number of cases cancroid-epithelial scales. The progress of growth may in the first stage (the stage of papillary swelling) be a very long one. After the commencement of ulceration, the cancroid growths, when left alone, destroy the patient within two years.

The symptomatology does not differ from that of cancroid in other organs.

With regard to etiology, Mayer's observations give no support to the idea of hereditary predisposition. The time of life at which the women were affected in Mayer's collected cases is as follows:—

Out of thirteen, three were first affected between the ages of thirty and forty years; two between forty and fifty years; seven between fifty and sixty; one between sixty and seventy. In three cases mechanical irritation was given as an occasional cause.

The main question, with regard to treatment, is, whether the growth can be extirpated or not. In the early stages the chances of extirpation or destruction by the actual cautery are favorable, and the operation should be undertaken as early as possible; for the cellular-tissue of the female genitals forming the base of the cancroid is rich in vessels, and favors speedy infection. Mayer was enabled to operate upon two out of his six cases. The first case ended favorably; in the other the disease returned in the inguinal glands, and caused death.

ART. 237.—*Sulphate of Bebeerine in Uterine Diseases.*

(*New York Medical Record*, March 1, 1867; and *British Medical Journal*, March 30, 1867.)

Dr. A. P. Merrill says that the sulphate of bebeerine is a remedy for dysmenorrhœa, excessive menstruation, hemorrhage, leucorrhœa, and all uterine disorders dependent, in whole or in part, upon hypertrophy and hyperæmia of the uterus and its appendages. It exercises, also, a tonic power over the kidneys and bladder, and a restraining influence over the blennorrhœal discharges. He prescribes it in pills, made up with syrup, in doses of five to twenty grains, and commonly employs aloes as an adjuvant remedy.

ART. 238.—*Intra-Uterine Polypus.**(Medical Press and Circular, January 9, 1867.)*

Dr. Atthill detailed the particulars of a case of intra-uterine polypus at a meeting of the Obstetrical Society of Dublin.

The patient was an unmarried woman, aged forty-five. She was in an extremely weak and emaciated condition, being rendered almost exsanguine by the repeated and latterly continuous attacks of uterine hemorrhage. On vaginal examination the uterus was found to be greatly enlarged, perfectly globular, the cervix being entirely obliterated, and the os closed, so much so as to admit with difficulty the point of a uterine sound. A small sponge-tent was carefully introduced into the os, which dilated it in a few hours to the size of a sixpence. On its removal this was at once replaced by a larger one, and finally by one of even greater size. These acting very satisfactorily opened the os to the size of a crown-piece. Dr. Marion Sims' intra-uterine ecraseur was then introduced, but all attempts to snare the polypus with it failed. An ordinary wire ecraseur was then tried with no better success, the extreme narrowness of the vagina, and the unyielding nature of the uterine walls adding greatly to the difficulty of the operation. Recourse was then had to Gouche's canula, with which, after some difficulty, a ligature of double whip-cord was carried round the pedicle and tightened. Some vomiting followed. The ligature was tightened morning and evening by means of a winch, ingeniously adapted on the plan suggested by Dr. Beatty, to the end of the connecting rod of the canula.

Five days elapsed before the ligature cut through the pedicle, and even then the polypus was retained in utero, and had to be removed by means of a small pair of forceps. The polypus, which was fibrous, was the size of a large egg. This woman had more than one well-marked rigor, and much uneasiness was felt lest she should be attacked with pyæmia. In order to obviate the risk which the slow action of the ligature entails, Dr. Atthill devised and exhibited to the meeting an instrument which may be briefly described as an adaptation of the canula of Gouche to the ecraseur, the end of the ecraseur being modified so as to allow the canula, by which a wire rope is carried round the pedicle of an intra-uterine polypus, to pass through it, the rope being then attached to the ecraseur. The operation is completed as by an ordinary wire ecraseur, thus uniting the rapid action of the ecraseur to the facility of application afforded by the canula of Gouche.

ART. 239.—*A Case of Fibrous Tumor of the Uterus, attended by Early Pregnancy: Retroversion of the Uterus and Retention of Urine: Death and Decay of the Fœtus: and, subsequently, Death of the Mother from Pyæmia.*

By J. HALL DAVIS, M. D., F. R. C. P.

(Obstetrical Transactions, vol. viii.)

The subject of the following case was Mary Goodridge, aged thirty-six, a married woman. The *state on admission*, as noted in the hospital card, is as follows: A large abdominal tumor occupies the pelvis and the abdomen up to the level of the ribs, and lying principally on the right side; general tenderness; the lobe of tumor felt in recto-vaginal pouch; cervix uteri is hard, pressed closely behind the pubis, and drawn up. Incontinence of urine. Has lost flesh; is feverish. Family history.—Her mother died recently of a tumor, but of what kind she does not know. She has three sisters living and healthy. Has been married five years, but she has never been pregnant, unless so now, as she suspects herself to be.

History of illness.—Her illness commenced about four months ago with morning sickness. After a short time she began to notice enlargement. The catamenia not recurring after the beginning of June, she was supposed to be

pregnant. She was seen by Mr. Tyler of High Street, Marylebone, in the month of July, and from the symptoms he suspected pregnancy, and prescribed successfully for the sickness. In the month of September she frequently sent for Mr. Tyler on account of retention of urine, which a warm bath sufficed to relieve, until the 19th of September, when the warm bath was of no avail, and he found it impossible to introduce any sort of catheter. Mr. Tyler accordingly requested Dr. Hall's attendance, who, on examination, found a distended bladder and a retroverted uterus, the body of which was enlarged, but the cervix was hard and undeveloped. He could not pass the catheter with the patient lying on her back or side; he therefore had her placed in a kneeling posture, with her shoulders resting on the bed. The catheter then slipped into the bladder at once, and a quart of urine was drawn off. The retroversion of the uterus seemed to Dr. Hall, at least in part, due to the pressure of an abdominal tumor upon the fundus of the uterus, the tumor probably a fibroid growth of the uterus. He suggested the introduction of a caoutchouc hollow globe pessary into the vagina, and this to be inflated; hoping that its elastic pressure bearing upwards on the fundus and body of the uterus might prove as effectual in reducing the organ into its correct position as the same expedient had been in another case, in which he had been consulted a few days before, where a fall had occasioned a similar displacement of the gravid uterus at the fourth month of gestation. This treatment succeeded also in the subject of the present case. After this the patient no longer suffered from retention, and the uterus, when examined subsequently in the hospital, was found no longer retroverted.

Progress of the case in the hospital.—Being, on admission, September 30th, in a low state, and in great pain, she was ordered wine, and as much strong beef-tea as she could take, opium to relieve the pain, and castor-oil, as the bowels were confined. On the 6th of October effervescing draughts of citrate of potash, with dilute hydrocyanic acid and tincture of opium were given to relieve the vomiting, linseed and laudanum poultice was applied to abdomen, but without relief. On October 11th, Dr. Meadows, who was acting for Dr. Davis during his absence from town, saw the patient, and, on examination, found the neck of the uterus drawn up above and behind the pubis. He could easily introduce his finger into the orifice of the uterus. The uterine sound passed five and a half inches without opposition upwards and forwards. The cavity of the pelvis was found occupied by a solid tumor, a separate lobe of which was found to be lodged in the cavity of the sacrum. There was great sickness, and very offensive discharge from the uterus, which Dr. Meadows ascertained by the sound to be enlarged, but not to be retroverted. Its enlargement, he supposed, was due entirely to the tumor.

October 14th.—Face anxious and pinched; skin hot; aching pains all over the body. She lies in a drowsy state, with eyes upturned. Slight delirium for the last two or three days. Urine passed involuntarily; sickness abated; occasional hiccup, with eructation of flatus; expectoration of mucus. A crop of blebs, which appeared on the abdomen on the 12th, have subsided. Pulse soft and regular; tongue moist; knees drawn up; coughs occasionally. Brandy, six ounces, soda-water; subcutaneous injection of morphia, one grain.

October 15th.—Face hollow, anxious; knees drawn up; less restless; lips dry; tongue glazed and dry; mouth parched, great thirst; urine dribbles away; bowels not open. Brandy and soda-water.

October 16th.—Belladonna ointment to abdomen, on account of the pains. Continue the brandy and soda-water.

October 17th.—Great pain during whole of last night; no sleep. Pulse 100, fuller; tongue glazed; knees drawn up; right cornea, lower border, sloughing. No sickness since the 13th: Dribbling of urine continues; bowels relaxed last night and this morning. Subcutaneous injection of morphia, one grain, immediately; soda-water, brandy; enema of starch and opium.

October 18th.—Flooding began at 5.45 P. M.; pulse feeble; face anxious; eyes upturned; tongue glazed; surface warm. Ice passed into the vagina, and ice-bag applied to hypogastrium. Iced water given to drink.

8 P. M.—The foot of a fœtus presenting, and cord down in vagina. Occasional labor-pains.

8.30 P. M.—A fœtus of about four months' growth, but decomposed, was expelled; the cord, softened by putrefaction, broke off, leaving the placenta in the uterus. The patient being much reduced, and the os uteri being closed, the pulse tremulous and intermittent, it was decided by Mr. Ferguson, Dr. Hall's assistant, who was attending on the case, to trust to the action of ergot rather than to introduce the fingers into the uterus to remove the placenta by extraction, which would have necessitated first the dilating of the os, and, therefore, much irritation of the patient. Ergot was accordingly given, with brandy, but the placenta was not expelled.

11 P. M.—Injection of beef-tea and brandy was given at 10, and another at 11; both retained. At 11.45 the bowels were opened. Pulse still tremulous and intermittent; hands cold; respiration quick; no hemorrhage; occasional pains, patient then relapsed into a kind of doze.

October 19th.—Has had an injection of brandy and beef-tea every two hours, up to 9 this morning. Bowels open twice since midnight. Has been fed with brandy and milk at frequent intervals during the night. No uterine hemorrhage externally. Has now hurried breathing, chiefly thoracic; mutters occasionally; pulse scarcely perceptible at the wrist; deglutition difficult; lies with legs flexed on abdomen.

Death took place at one P. M.

Post-mortem examination by Dr. Cayley. Thorax.—Pleuræ normal. Lungs anæmic in front, and congested behind, but everywhere crepitant. Pericardium normal. Heart of normal size; all the cavities contained yellow fibrous clots, and a little black blood and loose black coagula; the valves were normal. The greater part of the abdominal cavity was occupied by a hard kidney-shaped tumor, which lay across it, extending from the brim of the pelvis to the ribs. The lower border was attached by a very short pedicle to the posterior part of the fundus of the uterus. The anterior surface of the tumor was adherent for a short space to the abdominal wall, but there were no marks of recent peritonitis. The uterus itself was slightly enlarged, and the cavity was filled up by a placenta which adhered to the fundus, and by a large clot of blood which projected through the dilated orifice of the uterus into the vagina. Imbedded in the wall of the uterus, which was one and a half inches in thickness, was a fibrous tumor, of the size of a small walnut; and bulging on its surface, without pedicles, were three or four small fibroid outgrowths. Another fibroid outgrowth of almost the size of a moderate sized orange was attached to the lower part of the body of the uterus. The bladder was dilated; the mucous membrane at the base much injected and rough. Both ureters were dilated, and also the pelves of the kidneys; the left arm was filled with a purulent fluid; its capsule was adherent, surface granular; and in its substance were several little purulent deposits. The right kidney was less altered. The other abdominal organs were normal. On making a section through the large tumor, it presented all the characters of a uterine fibroid; and near its upper surface was a small irregular cavity, containing a small quantity of dark brown serum. The substance of the tumor was firm, tough, somewhat elastic, and the sectional surface presented to the naked eye wavy fibres and interposed granular matter. The conjoined weight of uterus, ovaries, and tumor was six pounds. The peritoneum presented no traces of peritonitis.

Upon this very interesting case, Dr. Davis made the following remarks: "The rapid growth of the tumor (very unusually so for a fibroid tumor), appeared to be due to the active determination of blood to the uterine organs during pregnancy. The retroversion was produced by its downward pressure on the fundus; but this was remedied by the caoutchouc pessary.

"At some time prior to the entry of the patient into the hospital the fœtus died, and the circulating blood may have become so far poisoned from that source as to explain the constitutional disturbance with which the patient entered the hospital, and which of course continued increasingly in operation up to the patient's death. The purulent deposits in the kidneys, and the sloughing of the cornea, may be referred to the same influence.

"It must not be lost sight of, that the retention of urine, which the patient had borne with patience as long as she could before seeking advice, might have

contributed some influence in inflaming the kidney, and causing chronic inflammation of the mucous membrane of the bladder, and it led to the dilatation of the ureters and of the bladder.

"This case, which presented to those who saw it in the hospital such obscure evidence of pregnancy might, had it been treated by dilatation of the os uteri, and removal of the decayed fœtus and placenta on the appearance of putrid discharge, possibly have ended in a slow recovery.

"I believe, in all cases of constitutional disturbance apparently due to putrescence of uterine contents, it would be a prudent practice to dilate the os till the fingers can be introduced, so as to remove the putrescent substance, whether a fœtus, a mole, a decaying polypus, or fibroid growth."

Dr. Routh said the case was important, viewed in the aspect of what should be done in such cases—i. e., when we had abdominal tumors and pregnancy co-existent. The post-mortem examination revealed a large, fibrous, extra-uterine tumor, with small pedicle; precisely the case most favorable for gastrotomy. Should this patient have been operated upon before labor had taken place, or should labor have been prematurely induced first? He thought the latter: first, because it commonly happened that when abdominal tumors, whether ovarian or uterine, but especially if fibroid, were operated upon before labor, a miscarriage or premature delivery occurred; occasionally death. Secondly, if premature labor was induced, then not only was diagnosis made more easy as to the exact nature and bearings of such a tumor, but the impetus given to its rapid growth by pregnancy was removed.

Dr. Wynn Williams remarked that in a case that came under his care at the Western General Dispensary, he introduced the sound for the purpose of producing premature labor. The case so far differed from the one related, in being an intra-uterine tumor. The patient consulted him at the dispensary, stating that she had not menstruated for three years, and that during that time she had perceived some enlargement of the abdomen, but more so latterly. There was considerable fetid discharge from the uterus. He diagnosed intra-uterine tumor with subsequent pregnancy; fœtus dead. He introduced the sound into the uterus, moving it freely about, for the purpose as before related, of inducing labor. Labor soon set in, the patient being delivered by the midwife of a still and partially putrid fœtus, together with the tumor. Unfortunately both tumor and fœtus were destroyed, and he had no opportunity of inspecting them. The patient made a good recovery without a bad symptom.

ART. 240.—*Treatment of Sore Nipple.*

(Meigs' System of Obstetrics.)

In speaking of the treatment of sore nipple Dr. Meigs says he makes it a point to examine the sore nipple for himself. If he finds an excoriation or an ulcer seated upon a nipple actually tinged with inflammation, and highly sensitive to the touch, he advises some blood to be drawn by a circle of leeches set on the white part of the breast just beyond the areola. This leeching, followed by an emollient poultice of flax-seed mixed with crumbs of bread and milk, to cover the whole nipple and areola, is soon followed by a reduction of the inflammation. When that is subdued, the crack, fissure, or ulcer begins to heal under the gentle stimulation of a weak solution of nitrate of silver. After the nipple in substance is relieved, the cucumber ointment, or a true pomade, made with scraped pippins stewed in prepared lard or any other proper basis of an ointment, causes the cure to be soon effected. As this ointment is a very useful one in many occasions of disorders of the breast, Dr. Meigs does not refrain from giving the formula for its preparation. Take of white wax two ounces; deer's suet six ounces; oil of almonds two ounces; scraped pippins four ounces; dried currants two ounces; alkanet one drachm: mix. Melt in a water bath, and simmer for a sufficient length of time; strain the hot liquid and beat it in a mortar or on a slab to make proper ointment, stirring until the ointment is cold.

ART. 241.—*Ovariectomy; Adherent Multilocular Ovarian Cyst, twice Tapped: Recovery.*

Under the care of Mr. CURLING.

(*The Lancet*, June 1, 1867.)

The patient whose case is here related had been twice tapped before ovariectomy was performed. Fortunately, however, the adhesions which existed, although extensive, were easily broken through. The notes are furnished by Mr. James Adams.

"Grace G., aged twenty-one, from Cornwall, was admitted into the London Hospital on the 12th of March, 1867. About thirteen months before admission the patient, who had previously enjoyed good health, was attacked with an acute pain in the abdomen, which took place suddenly on pulling on her boots to go to church, and lasted for a few days. Dr. Head, who examined the patient after her admission, supposed that this attack of pain arose from the enlarged ovary being then pressed upwards into the abdominal cavity. About four months afterwards she perceived the abdomen to be increasing in size, and suffered occasional pains there, especially on the right side, but was otherwise well, and menstruated regularly for the first three months after the commencement of the swelling. By the end of six months the tumor had attained a large size, and was tapped by Mr. Mitchell of Redrath, when about three gallons and a half of dark-colored, viscid fluid were drawn off. The fluid rapidly reaccumulated, and in about a month after the tumor was as large as ever. A second tapping was performed a week before her admission, but only two quarts of dark-colored, viscid fluid could be removed.

"On her admission the tumor was very large, pressing up the thoracic viscera, and causing the apex of the heart to beat above the left nipple. The whole of the abdomen was dull, and fluctuated from side to side. Slight anasarca of the lower limbs. The patient ate and drank fairly. No albumen in the urine. Cheerful, and anxious to undergo the operation.

"On March 15th, Mr. Curling performed the operation of ovariectomy in a by-ward, the temperature of which was kept at 70° Fahr. Besides the medical staff, a limited number of dressers were present, care being taken to prevent the admission of any one who had been in the dissecting or post-mortem rooms. The early steps of the operation were as usual, with the exception of the incision being somewhat higher, being carried about an inch above the umbilicus. It was about five inches in length. This disclosed a large cyst, having extensive, though slight adhesions to the abdominal wall in front. These were broken through with the hand; and the cyst was tapped with Wells's trocar, and about a painful of fluid removed, none escaping into the abdomen. The walls of the cyst were seized with strong forceps, and dragged out, bringing into view some smaller cysts and solid growths within; and thus the pedicle of the left ovary was reached. This was secured by Chambers's cautery clamp, and the pedicle was divided by knife-shaped hot-irons. As free bleeding occurred from several vessels, an ordinary clamp was applied; but as the end of the pedicle could not be secured in this way outside the abdomen without considerable tension, the pedicle was transfixed by a double ligature, which was tied on either side. The ends of the ligature were brought out so as to secure the pedicle close to the abdominal wall. The wound was then accurately closed by deep and superficial sutures. A broad flannel bandage was placed around the abdomen, and the patient placed in a carefully warmed spring bed. During the operation the intestines were freely exposed, and some blood escaped into the peritoneal cavity, but was carefully sponged up. Some omentum adherent to the upper part of the cyst had been torn away; and an omental vessel, which bled freely, was at first cauterized, and then tied, the end of the ligature being left out at the wound.

"Shortly after the operation the patient began to vomit, and continued to do so frequently until the morning of the 18th. During this time enemata of

brandy and beef-tea were administered, the first one containing also forty minims of tincture of opium. Ice, brandy, milk, and champagne in small quantities were occasionally taken by the mouth when the vomiting was at all less frequent. On the 17th March the pulse was 130, temperature 102, respiration 22.

"March 18th.—The vomiting has ceased. No pain or tenderness in the abdomen; tongue red and dry in the centre. Pulse 130, temperature 100, respiration 15. Takes a fair quantity of fluid nourishment. In the evening she was comfortable, and slept several times.

"March 19th.—About five o'clock this morning she was seized with violent pain in the epigastrium, with much tenderness; but this was strictly confined to that region, and was no doubt explained by the fact of her having taken more than the stomach could digest. She was relieved in a few hours by a mustard-plaster. After this, one or two more nutritive enema were administered. Later in the day she was much better, the bowels acting twice of their own accord. Tongue rather coated, but moist. Pulse 100, temperature 100, respiration 20. Takes fluid nourishment at regular intervals.

"On the 22d the deeper sutures were removed. The edges of the wound had united along the middle, there being one ligature hanging out towards the upper part (from omentum), and the main ones from the bottom. One of the lower ones came away. On the 28th the discharge from the bottom of the wound became very copious and slightly tinged with blood; and on the following morning (fourteen days after operation) the main ligature came away, followed by the discharge of a large quantity of pus. The single ligature towards the upper part remained firm up to the 3d of April, when it came away after being attached for a few hours to a piece of elastic. In the meantime there had been a return of vomiting for twenty-four hours, the matter vomited being tinged with green. Pulse 108, temperature 99, respiration 22.

"On the 31st the pulse was 96, the temperature 99, and respiration 20.

"On April 5th she appeared to be very well constitutionally, eating and drinking very fairly, and gaining strength; but about the centre of the wound, or rather cicatrix, there was a circular hole nearly as large as a shilling, and about half an inch deep, with very pale edges, which discharged unhealthy pus. To this was applied a solution of nitrate of silver (twenty grains to the ounce) several times, and cotton wool dipped in a solution of the same (two grains to the ounce) was kept applied to it; and on the following day all tension was removed from the edges by gently approximating them with a piece of strapping. In a few days the wound assumed a more healthy character, and the patient was able to sit up for several hours a day, and continued to gain strength rapidly. She was discharged cured on April 26th, exactly six weeks after the operation."

ART. 242.—*Treatment of Menorrhagia.*

Hospital Out-Patient Practice.

(*The Lancet*, May 18, 1867.)

We have collected from some of the hospitals a few hints respecting the treatment of the different pathological conditions of which this symptom is so frequently an exponent, and these will probably be interesting as well as useful.

St. Bartholomew's Hospital.—Dr. Greenhalgh remarks that by far the greater number of cases of menorrhagia are due to fibroid or fibrous out-growths or in-growths from the uterus, which are mostly treated by a pill composed of one-twelfth of a grain of bichloride of mercury combined with quinine and belladonna, to which is frequently added small quantities of the aqueous extract of aloes, taken night and morning for some weeks; a mixture composed of dilute sulphuric acid, tincture of Indian hemp, mucilage, liquid extract of ergot, syrup, and infusion of quassia, three or four times a day, being ordered just prior to and during the catamenial flow. Between the "periods" a draught of iodide or bromide of potass, with the liquid extract of ergot, sal volatile, and infusion of quassia, is given twice a day. If the loss of blood have been very great, or the patient be anæmic, the tincture of sesquichloride of iron with the liquid extract

of ergot, chloric ether, syrup. and infusion of quassia, twice or thrice a day, with the pills, are prescribed. Where the patient is more or less plethoric, which is rarely the case, the sulphate of magnesia and digitalis, either with dilute sulphuric acid or salines, and scarifications or leechings of the cervix uteri, are found most serviceable. In cases of subinvolution of the uterus, attended with menorrhagia due to imperfect recovery from labor or miscarriage, hyperlactation, or other affections leading to constitutional debility, especially in the strumous habit, the syrup of the iodide of iron with or without ergot, and with the pill above referred to, are found very efficacious. A similar course is pursued, sometimes with, sometimes without, the pills, where the commencement of malignant disease is the exciting cause of this symptom.

In cases of Bright's disease and other affections interfering with the stasis of the blood, gallic or tannic acid, usually combined with henbane, prove valuable hæmostatics; some preparation of iron with arsenic being usually ordered between the "periods." Where polypi, portions of retained ovum, or fibrinous clots are detected, they are removed.

Dr. Greenhalgh particularly draws attention to the frequency of menorrhagia as the result of collections of fecal matter in the large intestines and rectum, and of hepatic derangements occasioning mechanical irritation and congestions of the hæmorrhoidal vessels and uterus. For calculi, in addition to the pills, he prescribes repeated doses of the compound decoction of aloes, with tincture of *mux vomica*.

In all cases he recommends quiet of mind and body; rest in the recumbent posture; nutritious and unstimulating diet; cold acid drinks; tepid or cold water vaginal injections; great moderation or total abstinence from sexual excitement.

He now and then has recourse to the following means: Matico-cotton plugs or pessaries; astringent vaginal injections; sponge tents; iodide of lead and atropine pessaries; iodized cotton; Hodge's and other pessaries in cases of misplacements of the uterus, &c.

Dr. Greenhalgh adds that, *cæteris paribus*, menorrhagia is more prevalent among women of lax fibre, more especially if they have had many children or abortions in rapid succession; in those subject to acne, pruritus, or eczema, and about the climacteric; in those of intemperate habits of various kinds, &c. He considers it is by no means always easy to determine whether the case is one of menorrhagia or threatened abortion.

University College Hospital.—In all cases Dr. Hewitt attaches much importance to rest during the "period." Daily use of the vaginal douche of cold water is a valuable means of diminishing the congestion and restoring the lost tonicity of the uterus. The tincture of iron, in doses of from fifteen to twenty minims three times a day, combined with a few drops of glycerine, is very frequently given, and found efficacious where the system is debilitated from repeated losses of blood. In many cases Dr. Hewitt administers a few doses of ergot in powder (half a drachm three times a day).

The point to which the greatest attention is directed is the procuring an exact diagnosis of the state of the uterus. Obstinate menorrhagia is often, Dr. Hewitt says, found to be due to some physical alteration of the uterus, overlooked and consequently not treated. Of the latter class of cases, retroflexion of the uterus is a most marked instance.

Great Northern Hospital.—For the last few years Dr. Murray has treated cases of menorrhagia—not dependent upon growths, displacements, or other causes requiring special and manipulative interference—by the combined use of gallic and sulphuric acids principally, with as much rest as can be obtained. The disease has generally shown itself in one of the three following forms: 1. Where at each period there has been a more decided loss than natural. 2. Where, from excessive debility, a bloody discharge has continued from month to month. 3. Where, after childbearing, a large uterus with a patulous os is continually pouring out blood, and every now and then doing so in gushes accompanied by clots. In all these degrees of this troublesome and weakening complaint, Dr. Murray is in the habit of prescribing from five to ten grains of gallic acid with from fifteen to twenty-five minims of dilute sulphuric acid, twice or

thrice daily, for a period sometimes extending over two months. Occasionally he has found the use of mustard applied over the sacrum every other night, or even a blister on the same spot, useful as a help in the third form of this hemorrhage. He has also advised the application of cold water to the lower part of the spine in cases of continued discharge (not leucorrhœal) between the periods.

Dr. Murray has not found the use of iron at all satisfactory; but he has administered it with good effect in some cases after a continuance of the acid mixture, and all arrest of hemorrhage for some time. The use of vaginal injections has not been recommended by Dr. Murray; but in many cases cold-water enemata have been extremely useful at those moments when the gushes of blood with clots take place, a gentle non-irritating purgative being also given.

Charing-Cross Hospital.—Dr. Parson recommends rest as much as possible in all cases of menorrhagia; and the avoidance of household duties, at least for a few days, during the severity of the symptoms.

The astringent mixture in general use amongst the out-patients consists of tannic acid (from five to ten grains), dilute sulphuric acid (from twenty to thirty minims), and the liquid extract of ergot of the British Pharmacopœia (from five to ten minims), every four or five hours for the first few days. If there be much pain attending the menorrhagia, Dr. Parson usually orders from five to ten minims of the tincture of Indian hemp to each dose. Dr. Parson has never seen any ill result following the use of the Indian hemp, but he has generally employed it in the former combination, or with other astringents.

As a general rule, all the preparations of iron are avoided in menorrhagia, even though there be anæmia and pallor, since iron invariably increases the vascularity of the pelvic organs; and he employs the preparations of iron only when two or three menstrual periods have been passed normally.

Aloes also is avoided, in most of its preparations, in all cases of menorrhagia, since it is apt to increase the irritability and vascularity of the pelvic viscera.

Menorrhagia associated with metritis is treated by astringents for the first few days. The bowels are regulated by a saline aperient—the bitartrate of potash in drachm doses, with quinine in half to one grain doses, taken every morning. After the period has ceased the usual treatment of metritis is employed.

Menorrhagia associated with a granular state of the mucous membrane of the cervix uteri is treated by astringents and tonics generally. A local astringent consisting of the solution of chloride of zinc (Burnett's), from twenty to thirty minims to every pint of water, is also used by the patient two or three times a day as a douche. Dr. Parson finds that a stronger astringent than this for local application is seldom, if ever, required in these cases.

The cases of menorrhagia associated with polypi are not treated with any benefit as out-patients, but are admitted as in-patients of the hospital.

Cases of menorrhagia resulting from the presence of fibroid tumors of the uterus are treated usually as in-patients also.

Menorrhagia arising from cancer of the uterus, usually resists all treatment. From twenty to thirty minims of solution of chloride of zinc to a pint of water often is more useful than any other douche in diminishing the fetor, and to some extent the amount of the discharges.

In the following cases of menorrhagia, where there are no local lesions of the generative organs, a brief summary of the treatment is as follows:—

From debility, it is treated by the astringents during the period; after the period has ceased tonics are employed, excluding iron and aloes until the tendency to excessive menstruation has ceased, then the preparations of iron with *nux vomica* or strychnine become valuable.

When depending on congestion of the portal system, it is relieved by a daily aperient of bitartrate of potash with quinine, and with or without five or ten grains of jalap in each dose, taken every morning, and avoidance of alcoholic stimulants.

Associated with mitral or aortic obstruction, menorrhagia is most difficult to relieve, and is treated on general principles—of diminishing the congestion of the pelvic organs as much as possible, and giving tone to the distended capillaries and veins.

Menorrhagia with emphysema or chronic bronchitis is also exceedingly difficult to relieve, and when relieved for a time, often returns.

Resulting from kidney disease and albuminuria, it is treated by warm clothing; aperients daily of compound jalap powder with quinine, given in the mornings, and the sesquichloride of iron with nux vomica two or three times a day, generally with marked improvement.

When associated with spongy gums and a scorbutic state, it is treated by the citrate and chlorate of potash; the patient being directed to avoid all salted meat; to take the juice of half a lemon every day; occasionally tannic acid is given in addition.

ART. 243.—*A Case of Craniotomy; with Clinical Remarks.*

Under the care of Dr. GRAILY HEWITT.

(*British Medical Journal*, February 16, 1867.)

The notes of this case are given by Mr. Hughes, obstetric assistant, University College Hospital:—

Mrs. Y., aged twenty-three, pregnant for the first time, applied for a letter, December 10th, 1866. She expected the termination of her pregnancy about the middle of January. Her height was 4 feet 9 inches. Both her tibiae were curved forwards in a very decided manner, though not to a considerable degree.

Her mother stated that, as a child, the patient was very weakly. She was very backward in cutting her teeth; and the legs soon became bent and crippled. She attended this hospital with the child for about two years. The child was not able to walk properly until the fourth year. It is also suspected, from the mother's statement, that the child had enlargement of the head at the same time. The patient enjoyed very good health ever since her sixth year of age.

The pregnancy presented nothing remarkable. On January 10th, the patient lost some liquor amnii, and pains were felt. One of the pupils saw her then, and found on examination, that the os was very high up in the pelvis, and scarcely admitted the finger. On January 14th, there was a great loss of liquor amnii; and pains, more severe, but irregular, occurred until January 15th. On January 15th, Mr. Hughes, the obstetric assistant, saw the case; Mr. Loyld, who was then attending, having diagnosed pelvic deformity. The pains were now severe, and occurring with more regularity. Upon examination, Mr. Hughes found that the head, which was presenting, had not descended into the pelvis at all, on account of the great projection forwards of the sacral promontory. On auscultation, the child was found to be alive. Dr. Graily Hewitt's attention was then called to the patient.

Jan. 17th, 9.30 A. M.—Dr. Hewitt found the os of the size of a shilling, and a very small portion of the head only engaged in the brim of the pelvis. The sacral promontory was very readily felt; antero-posterior measurement appearing only about two inches at the brim (afterwards, when more carefully measured, it was found to be about $2\frac{1}{4}$ inches). There was more space found to the right side than to the left. The sacral promontory formed a kind of shelf, on which the head rested. The position of the head was found to be occipito-posterior median. The bladder below the head was distended with a little urine, which was drawn off by the catheter. The fetus was found to be alive, with a pulse of 146 to 150. Pains were now constant. The patient's pulse was good, 80 in the minute. The expression of the countenance was good. The vagina was found to be small. Mr. Hughes having given chloroform, Dr. Graily Hewitt attempted to turn. This was found to be impossible without too great a risk of rupturing the uterus, the posterior part of which, resting on the sacral ledge, was of extreme tenuity. The uterus admitted the hand with exceeding difficulty, owing to its persistent tonic contraction. The knee was, however, seized; but all reasonably forcible attempts to alter the position failed. The fetus became convulsed during these attempts, and pulsation in the cord less and less evident. At the end of half an hour, the perforator was used, and the

head delivered by the crotchet. The crotchet answered in this case better than the craniotomy-forceps. Delivery was effected at 11 A.M., and the placenta expelled about ten minutes afterwards. The uterus contracted firmly. A binder was put on; and the patient was left about half an hour afterwards, well, but exhausted. The child was a male; and the head was quite of an average size. Dr. Graily Hewitt directed food to be given frequently, and half an ounce of brandy every two hours.

In the evening, at eight, Mr. Hughes found her doing well, and ordered an opiate draught.

Jan. 18th.—The patient slept a little in the night. She was doing well.

Jan. 22d.—The report was, in every sense of the word, favorable.

Dr. Graily Hewitt, in his clinical remarks on the foregoing case, observed that the extremely small diameter of the pelvis at the brim forbade the use of the forceps; the child being at full term, and the head well ossified. The only resource was turning; and it is possible that, if this operation could have been performed before the liquor amnii had escaped, the child might have been born alive. But it was not probable, owing to the great distortion. Considering the time which had elapsed from the commencement of pains, the patient was well at the time of the operation. With reference to the crotchet, Dr. Graily Hewitt observed, that he preferred the craniotomy-forceps, as a rule; but the crotchet had sometimes an advantage, as in this case, that it allowed the head to rotate, and accommodate itself better, in its collapsed state, to the shape of the brim, than when the craniotomy-forceps was applied.

ART. 244.—On the Treatment of Labor complicated with Ovarian Tumor.

By W. S. PLAYFAIR, M. D., Assistant Obstetric Physician to King's College Hospital.

(*The Lancet*, May 25, 1867.)

At a meeting of the Obstetrical Society of London, held on May 1st, Dr. Playfair related the particulars of a case of labor obstructed by ovarian tumor which had come under his observation. The pelvis was occupied by a solid ovarian growth, which was not diminished by puncture, delivery being finally effected by craniotomy. Dr. Playfair next proceeded to analyze the details of fifty-seven similar cases, collected from various sources, pointing out the results of the various methods of treatment employed. He showed that nearly one-half of all the cases left to nature had proved fatal, probably on account of the bruising and contusion to which the tumor was necessarily subjected during the passage of the head. On the other hand, all the cases in which the tumor had been diminished in size by puncture recovered; and he strongly advocated this treatment, even when there was apparently sufficient room to admit of delivery without it. One-half of the cases in which craniotomy was resorted to had also ended fatally. In several of these cases perforation was only employed because the child was dead, although there was sufficient room for the passage of the head; so that the results of this treatment were also most unfavorable for the same reason as when the case was left to nature. Dr. Playfair concluded by briefly reviewing the history of the other methods of treatment employed, such as turning and the Cæsarian section.

ART. 245.—On the Diagnosis of Renal from Ovarian Cysts and Tumors.

By T. SPENCER WELLS, F. R. C. S.

(*Dublin Quarterly Journal of Medical Science*, February, 1867.)

Solid renal tumors, whether cancerous or innocent, may resemble the malignant, pseudo-colloid, or cysto-sarcomatous tumors of the ovaries; while different

varieties of ovarian cysts may be closely simulated by different forms of pyelitis and pyonephrosis, hydronephrosis, cystic degeneration, and the growth of hydatids in the kidney. Perhaps the diagnosis may be facilitated by attention to the following propositions:—

1. Although intestine is sometimes found in front of ovarian tumors, and sometimes behind movable renal tumors, there are very rare exceptions to the general rule, that renal tumors press the intestines forward, and ovarian tumors press them backward. In other words, ovarian tumors are in front of the intestines, renal tumors are behind the intestines.

2. Large tumors of the right kidney usually have the ascending colon on the inner border of the tumor. Tumors of the left kidney are usually crossed from above downwards by the descending colon.

3. The discovery of intestine in front of a doubtful abdominal tumor should lead to a careful examination of the urine. It is possible that one kidney may be diseased and the urine quite normal, because the healthy kidney alone secretes urine. But the rule is that either blood, pus, or albumen, or characteristic epithelium are detected, or some history may be elicited of their being detected at some former period.

4. If any doubt be entertained whether a substance felt between an abdominal tumor and the integument be or be not intestine, percussion may not solve the doubt, because the intestine may be empty and compressed. But (a) an intestine when rolled between the fingers contracts into a firm, cord-like, movable roll; (b) the patient may be conscious of the gurgling of flatus along it, or the gurgling may be heard on auscultation; (c) the intestine may be distended by insufflation, after passing a long elastic tube through the rectum.

5. Ovarian and renal cysts may both be subject to great alterations in size. When the kidney is the seat of disease, the fluid usually escapes by the ureter and bladder. An ovarian cyst can only empty itself through the bladder after adhesion and a fistulous opening. It may discharge through the Fallopian tube and uterus, or into an intestine, or through the coats of the vagina. In either case the physical and chemical characters of the fluid discharged will be the chief guide in diagnosis.

6. If a correct history can be obtained, it may be expected that a renal tumor has first been detected between the false ribs and ileum, and that it has extended first towards the umbilicus, next into the hypochondrium, and lastly downwards towards the groin. An ovarian tumor has, in all probability, been first noticed in one inguinal or iliac region, and has extended upwards and inwards.

7. It is only a very small ovarian tumor, with a long pedicle, which could be mistaken for a floating or movable kidney. The latter may be recognized by its characteristic shape, though it is often so misplaced that the hilus is turned upwards. The kidney is usually felt between the umbilicus and false ribs, and may be pushed upwards and downwards, or laterally to a varying extent, or into the lumbar region to the normal position of the kidney. When the kidney is pushed away from this position the sound, on percussion, becomes tympanitic.

8. Just as renal tumors are usually associated with some evidence or history of hæmaturia, calculus, albuminuria, nephritic colic, or some notable change in the quantity or state of the urine, so ovarian tumors are usually associated with some change in the quantity and regularity of the discharge, or with suffering at the catamenial period, and with some alteration in the mobility or situation of the uterus. But, as in some rare cases of renal disease the urine may be normal, so in some rare cases of ovarian disease there may be nothing abnormal to be discovered in any of the pelvic viscera, or in their functions.

ART. 246.—Case in which Ovariectomy was twice Successfully Performed on the same Patient.

By T. SPENCER WELLS, F. R. C. S.

(*Proceedings of the Royal Medico-Chirurgical Society*, vol. v. No. vi.)

The author commenced by alluding to three cases in which ovariectomy had been performed twice on the same patient. The first was by Dr. Atlee, of Philadelphia, sixteen years after the previous operation by Dr. Clay, of Manchester. The second was by the author, nine months after an operation by another surgeon. The third was by Dr. Bird, fourteen years after one of his own operations. The first case was successful; the second and third were not. The case now related is believed to be the first in which ovariectomy has been performed successfully twice on one patient by the same surgeon. In this case the author removed the left ovary of an unmarried woman, twenty-four years of age, in February, 1865. The tumor weighed twenty-nine pounds. The right ovary was then healthy. The patients recovered, and remained well more than a year. But, in about fifteen months, disease began in the right ovary, and advanced so rapidly that ovariectomy was performed for the second time eighteen months and a half after the first operation, and a tumor, weighing eighteen pounds, was removed with complete success. A full account of both operations was given, with a description of the tumors removed; and some remarks were added upon the comparative frequency of disease in one or both ovaries, and upon the appearance of disease in one ovary after the other had been removed. The author showed that the right and left ovaries are found diseased with equal frequency; and that in from one-third to a half of the cases where the disease has gone on to its termination in death, *both* ovaries are diseased. But he asserted that both ovaries are affected in smaller proportion in the earlier stages of the disease. In the first 150 cases in which he performed ovariectomy, he only removed both ovaries in seven, and in only three cases was disease in an early stage suspected in the ovary not removed. In three the ovary was not removed, but examined and found healthy, and became diseased afterwards. In two of these cases the disease was malignant. The rule appears to be established, that after a successful ovariectomy the patient is restored to good health; and although there are occasional exceptions to this rule, it is satisfactory to know that if the remaining ovary should become diseased, the first operation need not add much to the difficulty of the second; and that of four cases in which a second ovariectomy has been performed, two have proved successful.

ART. 247.—Absence of the Vagina: large Tumor formed by Retained Menses: Formation of a Vagina and Perforation of Sanguineous Sac: Death from Effusion of Blood into the Peritoneal Cavity: Cause and Mechanism of this Effusion.

By M. GOSSELIN, Hôpital de la Pitié, Paris.

(*Gazette des Hôpitaux*, No. 57, 1867.)

On March 18th, 1867, A. (Clemence), aged eighteen years, was admitted into La Pitié under the care of M. Gosselin. The young woman was apparently endowed with a good constitution, and up to the age of sixteen years had been affected with no serious malady; but since that period has experienced every month pains in the abdomen, kidneys, and thighs. These pains are acute, last from three to eight days, and are subject to exacerbations which sometimes compel the patient to keep to her bed. These crises have for some time been attended with increased pain. There has never been any discharge from the vulva of blood or whites, nor has there been any other functional disturbance.

On an external examination of the abdomen, a large round tumor was found, occupying the median line, extending three inches above the umbilicus, and

more than twenty-four centimetres above the pelvis. In each iliac region and reaching as high as the umbilicus, was another tumor, hard, firm, and, like the first, movable. The median tumor was undoubtedly formed by the distended uterus, and the lateral swellings by a distension of the Fallopian tubes. At the entrance of the vulva there was an opening through which the finger could be passed for a short distance; this was the dilated urethra, for through it a female catheter was passed and urine was drawn off. No vaginal opening was discovered. The finger introduced into the rectum was separated from the catheter by a thin partition, from three to four centimetres in depth, and a very large hard tumor was felt above, which seemed to fill up a great part of the pelvic cavity, and presented no very distinct signs of fluctuation. This examination justified the supposition that the inferior third of the vagina was absent, and that the upper two-thirds of the canal, together with the uterus and Fallopian tubes, were filled with menstrual fluid, which had been collecting for a period of at least two years. All these affections were manifestly due to the retention of the menstrual discharge. The patient was doomed to a certain, and probably speedy death. Under these circumstances, M. Gosselin considered that it was necessary to do something. He was, however, unwilling to operate until some days after the crisis proclaiming a menstrual epoch. This crisis arrived at the end of March and was very violent, the pains being at times so severe as to make the patient cry out. On April 6th, 1867, five days after the accession, M. Gosselin proceeded to operate. The patient was fixed in a lithotomy position and put completely under the influence of ether, which was chemically pure. M. Gosselin made a transverse incision in front of the anus, then putting the bistoury on one side, he introduced the fingers into the wound, and continued the operation by separating the tissues, *par decollement*, as recommended by Amussat. Pushing the rectum backwards and the urethra forwards, he reached without much difficulty, and in a few minutes, the lower part of the tumor. A large trocar was then cautiously slipped over the finger, and a puncture made into the sac, from which there flowed a small quantity of thick viscous black blood. It had been the intention of M. Gosselin, if the blood had flowed freely, to have rested contented with this puncture and to have allowed the fluid to flow away gradually; but as this was impossible he was compelled to enlarge the orifice with the bistoury. A great quantity of an extremely thick liquid of the color and consistence of *crème au chocolat* was then seen to come away; and after the patient had been placed in her bed, the median tumor was found to be reduced in size by two inches. Opium pills were then given every hour.

April 7th.—The patient had frequent colicky pains yesterday. She has taken only broth; had a good night. This morning she is doing well, notwithstanding a slight headache. Absence of vomiting; colic and pain on pressure. Pulse somewhat frequent; appetite good. The median tumor has descended to a point an inch below the umbilicus, and the lateral swellings still lower. Laudanum cataplasms were ordered to be applied.

April 8th.—Has had a fair night; is slightly pale; complains of pain in the epigastrium and in the thighs; some inclination to vomit; pulse frequent. M. Gosselin introduced his finger into the wound, but could not penetrate into the opening made into the vagina. A female catheter was passed. The fluid which flowed away, and had not ceased to be discharged since the operation, is less viscid, of a greenish color, and seems to be mixed with pus. The median tumor has descended a little more. The lateral tumors have moved nearer to the median line and the crural arches.

April 9th.—Much colic yesterday; no sleep; pain in the right iliac fossa and the fold of the groin; has brought up her food twice; no stools, white tongue; pulse frequent; skin hot. The liquid which flows from the sac is fetid. The median tumor continues to descend; that formed on the right side has become larger and harder. Calomel and aconite were prescribed.

April 10th.—Bowels have not yet been relieved; vomiting of food and bile; tongue foul; pulse small and very frequent; no sleep; abdomen slightly tympanitic; painful on the right side and in the epigastric region. M. Gosselin enlarged slightly the contracted opening made into the vagina. An enema was ordered to be administered.

April 14th.—Vomiting continues to be frequent, the enema has had no effect. Pains over the whole abdomen, which is tympanitic. Extreme adynamia; pulse cannot be counted; extremities commencing to be cold. The patient died at three o'clock in the afternoon.

Autopsy.—The abdominal cavity having been opened there was found within it a great quantity of chocolate-colored fluid, manifestly from the same source as that which flowed away during the operation, although it was more limpid and of a lighter color, on account of its mixture with peritoneal serosity. The omentum was red, much injected, thick, and covered with some false membranes. It was stretched tightly over the intestines, and below was bound to the uterus and Fallopian tubes by adhesions, some of which were recent, others firm and of long standing. The fundus of the uterus was situated close to a point midway between the pubis and the umbilicus. The lateral tumors were placed a little lower. On each side there was a fusion of the Fallopian tube with the ovary. The orifice and fringes of the Fallopian tube could not be found. The inner half of each Fallopian tube was firm and dense, and the uterine orifice was dilated, so that the two sacs formed by the distended canals could not be emptied through the uterus. On the superior part of the extended or ovarian half of each tube, which was much thinned here by distension, were found on the right side two openings, on the left side one, through which could be pressed out some chocolate-colored fluid similar to that discovered in the peritoneal cavity. It was then through these accidental openings in the Fallopian tubes that the fluid had been evacuated and effused into the abdominal cavity, causing death by peritonitis. The three rents in the tubes were found situated exactly on a level with the old and very firm adhesions with the omentum, which fact may seem to account for their existence. The uterus emptying itself, and descending, dragged upon the Fallopian tubes, and with these upon the omentum, which was supported above by the stomach, pushed forwards by gaseous distension of the small intestines, and perhaps deprived of the natural extensibility by the previous attacks of peritonitis; the omentum being thus held above whilst the adherent tubes descending with the uterus dragged it down below, the rents which had been the cause of death resulted.

Remarks.—This is not the first instance in which the surgeon has seen his patient, who had been affected with retained menses, due either to absence or to imperforation of the vagina, succumb to a severe peritonitis. But why, and how, is this peritonitis developed? M. Bernutz is inclined to think that it is caused by the passage of some of the collected blood into the peritoneal cavity through the ovarian orifice, and that the passage is occasioned by the contraction of these openings. In M. Gosselin's case, however, the ovarian orifices of the Fallopian tubes allowed no passage, as they were completely obliterated; and another point in this case, not less evident, is that the effusion was made through accidental openings or rents which had been produced either through extreme distension or through dragging upon the tube. The extreme distension had, without doubt, produced the thinning of the walls of the Fallopian tube; but it would be strange, if in this case, as in those reported by M. Bernutz, the rent had been produced directly after the operation. It is undoubted, on the other hand, that these tumors formed by the tubes descended with the uterus as this organ diminished in size, and in descending stretched and dragged down the omentum. Rupture was produced by the traction which was thus exerted at the spot where the old adhesions of the omentum passed on to the thinned part of the dilated Fallopian tubes.

M. Gosselin, in a clinical lecture upon this case, insisted upon these two points:—1st. In presence of cases of this kind advice ought to be given, not to put off the operation until the uterus and its tubes are very much distended, and until the attacks of partial peritonitis attacking the patient during the menstrual epochs have had time to form strong adhesions; the dragging of which, when the uterus descends, may cause a part of the sac to be torn away. The patients should be treated and operated upon at the first, second, or third mentioned period. 2d. When, in cases of imperforation of the uterus and vagina, tumors are found in the median line and in the lateral regions of the abdomen ascending sensibly higher than the umbilicus, there is greater reason

to fear death from effusion than in those cases where the menstrual retention does not reach so high as the navel. The rare cases of success which have been observed by Amussat, Delrou, and Dolbeau, were those of women in whom the tumor did not pass above or failed to reach the umbilicus, and in whom consequently the uterus as it was emptied might not have dragged down and extended the peritoneal adhesions that existed.

ART. 248.—On Amputation of the Cervix Uteri, and other Methods of Local Treatment, in Cases of Malignant Disease of the Uterus and Vagina.

By J. BRAXTON HICKS, M. D.

(*Guy's Hospital Reports*, 3d series, vol. xii.)

For amputating the neck of the womb, Dr. Hicks prefers the use of the écraseur, a very strong rope of wire being passed around the neck, to the shaft of the instrument, which should be placed in front of the cervix. He states that he has operated, or been present, in more than twenty-eight cases, and has never seen any fatal result or any untoward symptom whatever.

As a styptic to check offensive discharges, Dr. Hicks has found the anhydrous sulphate of zinc, which has been much commended by Sir James Simpson, very efficient. It is readily made by placing the ordinary sulphate of zinc in a porcelain basin over a spirit lamp. The salt first melts in its water of crystallization, after which it gradually dries; when completely dried it can be powdered. A good form of application is to mix it with glycerine to a paste-like condition. It has a powerful effect upon the abnormal tissue, and but little or none on the sound, and can therefore be used liberally without fear of injury. Should it cause much pain, which it seldom does, this is readily relieved by injection of warm water.

ART. 249.—Removal of the Uterus and its Appendages in a Case of Procidencia Uteri.

(*American Journ. of Med. Sciences*, February, 1867.)

Dr. S. Choppin relates a case of this. The subject of it was a woman thirty-eight years of age. The tumor was six inches in length and three and a half in breadth. The operation for narrowing the vagina having failed to afford relief, Dr. C. determined to remove the uterus and its appendages. Accordingly, on the 12th January, 1861, the patient being brought under the influence of chloroform, Dr. C. operated in the following manner:—

"The tumor was seized by a pair of vulsellum forceps, implanted in the neck of the uterus, dragged down as far as possible, and held steadily by an assistant. A circular incision was then made through that portion of the vagina attached to the neck of the uterus, so as to completely separate it, with a view of drawing the organ down and separating it from its peritoneal attachment; but I was thwarted in my attempt, by adhesions which were found to exist anteriorly between the anterior wall of the vagina and uterus to the posterior wall of the bladder, and posteriorly to the lower wall of the vagina and anterior walls of the rectum. By a careful dissection I severed the anterior and posterior adhesions, thus permitting of further traction downward of the uterus, and exposing a pedicle made up of the peritoneal attachments of the organ. The hemorrhage, which thus far had been quite profuse, was arrested before proceeding any further. The loop of 'Chassaignac's Ecraseur' was now thrown around the peritoneal attachments and gradually tightened, during a period of twenty-five minutes, when its division was completed, and the uterus, left Fallopian tube, and left ovary removed. It was found that the right ovary had not descended, and, consequently, the right Fallopian tube was comprised in the pedicle of the tumor, and severed near the body of the uterus. Not considering their removal necessary to the success of the operation, they were allowed to remain in the

abdomen. No blood followed the use of the ecraseur. At this stage of the operation, hernia of a loop of intestine took place. This was reduced, and further descent prevented by pressure of the hand of the assistant over the vulva, until permanent closure of the opening in the vagina could be effected. This was done by means of Sims' clamp suture. The inverted vagina was then reduced, the patient removed to her bed, placed upon her back with the pelvis elevated, and a full dose of opium administered. The patient rested well all that night. The next day no febrile reaction whatever occurred, although she complained of some tenderness or soreness over the abdomen. On the third day suppuration began, but, an examination by the speculum showed that most of the vaginal wound had healed by first intention. The suppuration, however, continued, quite profuse at times, for about three weeks, when the wire sutures and clamps came away. She was again examined with the speculum, and complete cicatrization of the wound was found to have taken place. The general health of the patient began rapidly to improve from that moment. On the 19th day of February she was presented, in my clinical lecture, to the class of the 'New Orleans School of Medicine,' with her womb in her hand, thus demonstrating that the uterus could be removed without causing death. The patient remained under observation until the following April, during which time her condition improved, so that she presented, at the time of leaving our infirmary, a robust and healthy appearance. Returning to labor and usefulness, she continued to enjoy good health, as I have been informed, until the spring of 1864, when she succumbed to an attack of dysentery."

ART. 250.—*Treatment of Vaginitis.*

By M. NONAT, La Charité, Paris.

(*Journal of Practical Medicine and Surgery*, January, 1866.)

Whether vaginitis be simple or virulent, acute or chronic, M. Nonat asserts that of all the various remedies hitherto recommended, injections, medicated plugs, or cauterization, that which he deems preferable, and has invariably resorted to for ten years with constant success, is the application to the mucous membrane of a solution of nitrate of silver. This method, however, cannot be successful unless every part of the diseased surface is brought into direct contact with the remedial agent. When a cure is not effected, M. Nonat contends that a fold of the vagina, and more especially the cul-de-sac which separates the vagina from the uterus, must have escaped cauterization. The operation should be performed with a slender camel-hair brush, and a larger lint pencil with which a concentrated solution should be carefully laid on.

N. Nonat uses the bi-valvular speculum, which causes less pain than any other when introduced into a vagina in a state of inflammation. When this instrument has been inserted, and the cervix exposed, the surgeon cauterizes with the smaller brush all the apparent and tangible part of the os tincæ, and also the surrounding sulcus. He then with the larger brush applies the solution to the other parts of the mucous membrane while he withdraws the speculum. Thus, if the portion of the cul-de-sac which surrounds the cervix has not been sufficiently modified, it comes subsequently into contact with the other parts of the mucous lining; over which the caustic solution has been liberally applied.

This treatment at first aggravates the inflammatory secretion; but after an interval of five or six hours these symptoms subside, and in the course of a few days improvement sets in. The operation should be repeated every five or six days, until a diminution of the discharge, and a favorable change in its nature are observed. A weaker solution may then be used, and applied every ten or twelve days only. In the intervals M. Nonat prescribes, if necessary, poultices over the hypogastric region, baths, and cool sedative injections, which remove all matter likely to occasion irritation.

In his treatise on *Uterine Diseases*, M. Nonat adduces the particulars of ten instances of vaginitis in every stage of intensity, in which a cure was effected after five or six such cauterizations on the average, and after seven or eight in

the most severe cases. In one patient the inflammation of the vaginal cavity was extremely violent, and the usual mode of cauterization had been twelve times instituted without result, but the affection yielded after seven careful applications of the caustic in the manner above indicated.

From these cases, and from the professor's subsequent experience, it may be inferred that the common method of cauterization is insufficient in some varieties of vaginitis, on account of the imperfect contact of the remedial agent with the whole of the mucous surface, and that peri-cervical cauterization is the most reliable plan of treatment which can be adopted.

M. Nonat invariably dwells on the expediency of avoiding astringents and caustics when uterine or peri-uterine inflammation coincides with vaginitis. This complication should in the first place be removed, for if this caution be neglected, the womb and its appendages may be expected to resent injudicious interference in the most distressing manner.

ART. 251.—*Interstitial Placentitis and its Influence upon Pregnancy and Labor.*

By A. HEGAR and RUD. MAIER.

(*Virchow's Archiv*, March, 1867; *Gazette Hebdomadaire*, No. 19, 1867.)

Under the title of interstitial placentitis the authors have studied a form of morbid change of the placenta which may be associated with that which is commonly designated fibrous degeneration of the after-birth.

The placenta upon which the authors made their researches had been obtained under the following circumstances:—

During delivery, the after-birth was expelled spontaneously, but a portion of the membranes remained in the uterine cavity, and a breach of surface was observed at the periphery of the organ. The placenta presented numerous alterations; the chorion, especially near the margins, were thickened and marked with fibrous patches. Near the insertion of the vessels was found a large cyst, containing a thick aqueous serosity and a grayish coagulum; at the periphery of the placenta numerous smaller cysts were seen filled with a reddish or brownish serous fluid which contained some elements of the blood. Finally, at various parts of the placenta, and particularly at its circumference, a number of the cotyledons were found converted into patches or masses of dense white fibrous tissue, from whence branches and prolongations sprung and extended towards the centre of the organ. That portion of the placenta that had been retained presented this fibrous transformation to a very great extent. Such were the principal changes visible to the naked eye. On a microscopical examination of those parts where the degeneration was more or less complete, none of the ordinary elements existing in the structure of the placenta could be recognized; nothing could be discovered save dense homogeneous connective tissue, inclosing a few cellular elements; at some points the commencement of the change could be seen—that is to say, that here a few villi, with their constituent elements, could still be found; but in the intermediate parts the villi were more or less extensively modified.

A detailed description is given of these morbid alterations, of which the following is a brief summary: Between the trunks and the branches from which the villi arise a dense connective tissue is developed, which by compressing the villi and the vessels produces atrophy, so that the villi appear only as rounded appendages or like beads, inclosing fat globules, and suspended on fibrous or elastic stalks, in which no vessel can be found.

These morbid changes, according to the authors, altogether resemble those processes observed in cirrhosis. There is a chronic progressive formation of connective tissue between the villi; compression of their stalks and the branches which support them; obliteration of the vessels and consecutive atrophy of the villi. The authors place the starting-point of these changes in that part of the maternal placenta which is in contact with the uterine surface of the foetal portion.

The most important fact that seems to be derived from the researches of Hegar and Maier is, that the obliteration of the villi is not the initial phenomenon, but that it is consequent upon the development of a dense connective tissue between these bodies. It is seen from this that the alterations described by the authors do not enter into the group of placental morbid changes called "fibrous scirrhus, lesions due to placentitis," of which M. Robin has given as a character fibrous obliteration of the cavities of the villi of the after-birth.

ART. 252.—*Fracture of the Pelvis in a Pregnant Woman: Recovery.*

By Dr. FAIRBANK.

(*Proceedings of the Obstetrical Society; Medical Times and Gazette*, January 19, 1867.)

Dr. Fairbank reported the following case on January 2d, 1867:—

"A woman in the sixth month of her pregnancy was crushed between the wheel of a wagon and the parapet of a bridge. Immediately on this happening there was a gush of blood from the vagina; and on removing the woman to her home, which was not far off, Dr. Fairbank was able to find that the pelvis was fractured, the fracture passing through the horizontal ramus of the pubis into the obturator foramen. The patient was chilly all over, the pulse was slow, and she was very pale. This happened in the afternoon, and when visited later her pulse was found to be rather better; but as the evening wore on, she became more and more restless; the pulse rose to 150 per minute, still she was able to pass urine. She spent a bad night, with occasional vomiting; and in the morning her abdomen was tense, her countenance anxious, and no foetal sound could be heard. She got several doses of opium, and warm fomentations were applied over the injured parts. On the third day she was still more feeble, and her pulse was softer, but the vomiting still continued, and there was a certain amount of tenderness over the abdomen. On the 4th she was better, the pulse was 100, urine natural, and a strong belt was applied so as to compress the pelvis; from this she felt great relief. She continued to improve; and in two months she was able to walk about, but the right side of the pelvis continued flatter than the left. Three months after labor came on, and the foetus was quickly expelled. When examined, it presented all the appearances of having reached a six months' maturity. It came to the knowledge of the reporter that she had been delivered of another child twelve months after this; a midwife having been employed at first, but from the tedious nature of the case, that a surgeon had been called in. So much time had been wasted before application had been made to this gentleman that the patient sunk after the child had been brought into the world."

ART. 253.—*On Hemorrhage from Fibrous Tumor of the Uterus.*

By Dr. MATTHEWS DUNCAN.

(*Edinburgh Medical Journal*, January, 1867.)

The bleedings from fibrous uterine tumor may be divided into two kinds, passive and active. Of these the more frequent and ordinary is the passive. For patients suffering from this disease are soon rendered anæmic. Their blood is watery; it oozes away, often copiously enough; it is not actively discharged. It is a loss to the patient, not a relief. All this is evident; but a more important distinction among such hemorrhages remains to be made. They may be capillary—that is, from numerous vessels so small that their ruptured coats escape detection; or they may have their source in considerable venous sinuses temporarily or permanently open.

In a majority even of the graver cases, the hemorrhage is from capillary vessels, resembling the hemorrhage of ordinary menstruation, and having its source in the same vessels; that, occurring at monthly periods in women still ovulating, it is a menorrhagia differing from the more usual forms of menorrhagia

in its peculiar exciting cause. It is well known that in some cases of fibrous tumor of the uterus there is no loss of blood whatever. When extraordinary losses of blood do take place, there are, in varying cases, different explanations easily applicable.

First.—The mere presence of the tumor in the organ, acting as an irritant, may increase and prolong the common congestion and hemorrhage of menstruation, or may produce these states apart from the periods of ovulation. This irritation is well known to increase according as the tumor is near the mucous membrane of the uterus, and it is natural to expect this result from its proximity; for when such tumors become polypoid or are true polypi, then there is a still further increase of irritation and of congestion, and a more frequent attendance of hemorrhage upon the disease.

Second.—It is readily conceivable that, entirely apart from irritation of the uterus and especially of its mucous membrane, a fibrous tumor may cause and keep up capillary hemorrhage by mechanically impeding the returning current or currents of venous blood as they pass through the uterine wall, or broad ligaments, or great veins of the pelvis. This is not only a conceivable, but is rendered in some cases a highly probable cause, by the study of the analogous condition of pregnancy. In the latter condition, tendency to hemorrhoidal congestion and other venous diseases, in parts below the uterus, as well as to uterine bleeding, is not always the result of mechanical disorders. But there can be no doubt that it often is caused or aggravated by such bad mechanism, and removed or relieved by the simplest means for mechanically averting the evil, such as the use of posture.

Third.—There is another explanation of the great capillary hemorrhages accompanying fibrous uterine tumor—namely, the existence in some cases of greatly increased extent of bleeding surface. Every pathologist is familiar with the very varying conditions of the uterine cavity in this disease. It is often distorted, often elongated, sometimes in addition greatly increased in real (not potential) capacity. Of all these conditions examples are constantly occurring. The source of menstrual hemorrhage is this mucous surface, and it is natural to expect with the increase of its superficial extent the amount discharged should also be augmented. I see no reason for doubting that all the mucous surface of the body of the uterus, or of parts connected directly with it, such as the mucous membrane investing a fibrous tumor, yields the bloody flux.

Lastly.—Among the causes of capillary hemorrhage may be mentioned presence or misapplication of uterine contraction. Whether this be really influential in cases of this kind, Dr. Duncan is not prepared to assert. He merely suggests the investigation of the question for physiological inquirers. That in the second great class of hemorrhages in connection with fibrous tumor it has a potent influence, he has no doubt. The second class of hemorrhages in this disease is that from open venous canals. If the former class finds an analogue in menorrhagia, this class finds its analogue in the floodings of pregnancy, an analogy which future improvements in surgery may extend to the treatment of it.

The great anatomical fact in this class of hemorrhage is the close resemblance of the development or hypertrophy of the muscular tissue of the uterine walls to that occurring in normal pregnancy. The muscular tissue and the uterine sinuses ramifying in it, and especially in the looser layers immediately surrounding the tumor, grow in a closely similar manner. The uterine development in fibrous tumor is confined to the proper or muscular layer of the organ. At no stage of the disease (uncomplicated with pregnancy) is there any production of the wonderful decidual hypertrophy of its mucous membrane. The hypertrophy of the muscular coat is often, indeed generally, in interstitial tumors, greater than in a pregnancy of corresponding bulk. At no time before parturition is the proper tissue of the uterine wall seen of the thickness of an inch, as it may be found around such tumors. The same exaggerated size is observed, in many cases, in the uterine sinuses ramifying around a fibrous tumor. Both these differences may be due to the comparative long continuance of the morbid cause of hypertrophy, and perhaps to its essential unnaturalness or morbidity. Lastly,

there are great differences in the shape of the uterus and in the thickness of the different muscular layers in cases of fibrous tumors, otherwise apparently alike.

"The venous vascular network," says Cruveilhier, "between a fibrous tumor and the tissue of the uterus, always considerable, even in fibrous tumors of small size, becomes truly prodigious when fibrous tumors have acquired large volume, and especially when they are œdematous. Thus, around an œdematous fibrous tumor, of the bulk of the head of an adult, I have found veins of the size of the little finger filled with coagulated blood. It is from openings in these vessels that the active hemorrhage in uterine tumors occurs."

The first kind of opening is a simple round aperture, establishing a connection between the uterine cavity and one of the large sinuses lying in the muscular tissue enveloping a tumor.

The second kind of opening, according to Cruveilhier, "consists of openings of the uterine sinuses, large, and occupying the lower part of the tumor."

The third kind of opening is the result of partial expulsion of the spontaneously enucleated tumor into the uterine or vaginal cavity.

ART. 254.—Application of Solid Nitrate of Silver, &c., to the Interior of the Uterus in Menorrhagia.

(*Edinburgh Medical Journal*, June, 1867.)

At a meeting of the Obstetrical Society of Edinburgh on the 13th of February Sir James Y. Simpson spoke of the success which sometimes attended the introduction of a solid piece of nitrate of silver into the uterine cavity, in cases of obstinate menorrhagia that were independent of the presence of polypi or of fibroid tumors in the walls of the uterus. For this purpose he had generally used a short piece of solid nitrate of silver, made half the thickness of the usual stick, and introduced and lodged in the uterine cavity by a hollowed or tubular instrument, of the size of the common uterine sound. In some cases the hemorrhage was arrested by this treatment, as it is in internal rectal hemorrhoids by the application of slight caustics. The powder of the persulphate of iron may be lodged in the uterus for the same purpose. He considered solid substances and powders as much more safe applications to the interior of the uterus than any forms of fluid injections. The occasional danger arising from the latter was not, he believed, so much from their passing along the Fallopian tubes into the peritoneal cavity, as from their sometimes over-distending the uterus, and fissuring and tearing through its mucous surface, thus getting fatal access to the circulation.

Dr. Burn mentioned one case, where the above treatment produced a curative result, but only for the time being.

Dr. Cochrane spoke in favor of the injection of the tinct. mur. ferri.

Sir James Simpson suggested caution in the use of fluid injections into the uterus, as some doctors had used such, and the patient died before they left the house. He (Sir J.) stated that the powder of the persulphate of iron might be introduced into the uterus with safety.

Dr. Stephenson had pursued the treatment of injection of Condé's fluid, and the bichlor. of iron in one case, without any harm resulting. But in his case the os was open and patulous.

ART. 255.—On the Cure of Ovarian Cysts without Operation.

By Dr. COURTNEY.

(*Revue de Thérap. Méd.-Chir.*; and *Edinburgh Medical Journal*, June, 1867.)

The author introduces his subject by carefully stating that no one could be less easily convinced than himself of the efficiency of any method of treating ovarian dropsy except ovariectomy. Two cases were, however, cured by him without operation. He classifies the remedies employed into: 1. Preparations of gold, especially the oxide, in doses of $\frac{1}{100}$ th to $\frac{1}{150}$ th of a grain; 2. Analeptics and tonics, as Vichy water, iron, quinia, &c.; 3. Abdominal friction, with

iodides of lead and of potassium; 4. Diuretics, also applied by friction, chiefly squill, digitalis, and nitre; and, 5. Graduated compression of the abdomen by elastic bandages. The gold was prescribed in the pleasant form of tablet prepared with chocolate, and the frictions were made over all the body with soft woollen cloths soaked in tinctures of squill and digitalis, by which it is worthy of note, marked diuresis was caused. The first case was of an unmarried woman, forty-three years old, with a large, probably unilocular, cyst of the right side, which had existed for four years. Under the above treatment, the tumor disappeared in a month, and there were no symptoms of a recurrence of the disease three years afterwards. In a second case, a young girl of twelve, with a large multilocular cyst, was treated on the same principle; improvement occurred in fifteen days, and a cure, which promises to remain permanent, was produced in six months. Dr. Courty mentions having seen this disease in a still younger patient under the charge of Professor Simpson of Edinburgh.

(C) CONCERNING THE DISEASES OF CHILDREN.

ART. 256.—*Of the Causes of the Mortality of Nurse-Children.*

By M. GUÉRIN.

(*Archives Générales de Médecine*, Février, 1857.)

In a discussion upon nursing and the mortality of infants, held before the Académie de Médecine, M. Guérin stated that there were two great classes of facts upon which the excessive mortality of children depended. The first relates to the mode of alimentation. M. Guérin has, after twenty-five years' observation, arrived at the conclusion that the predominant cause of infantile mortality is premature alimentation. This fact is far from being generally known, and is scarcely mentioned in classical works and dictionaries. By premature alimentation, M. Guérin means a diet which is too substantial, and which is not fitted to the age of the infant, an age when the digestive organs are not qualified for receiving any other kind of nourishment than milk; it generally consists of broth, sops, &c., which are given, in too many instances, to children at the earliest period of their existence. The importance of this fact, and its consequences, may be judged from the fact brought before the Académie de Médecine, that many nurses find it impossible to feed the children entrusted to their care with milk.

M. Guérin thinks that the charge against artificial alimentation of being the cause of infantile mortality is not a just one; for thirty years he has tried the milk of different animals, and he has observed that the same effects were produced by all these as by the milk of the woman. Premature alimentation influences the development of *tabes mesenterica*, of rickets, and produces a state of constitutional debility which renders the child liable to disease.

Another much more serious fact has been pointed out by M. Brochard—viz., the lingering death of these wretched children handed over to nurses who are devoid of maternal feelings and moral instincts. They succumb not to the effects of a diet unsuited to their age, but from the absence of nourishment. They perish of inanition.

M. Guérin mentions a third interesting fact in connection with the evil results of premature alimentation. "All children," he says, "brought up in this manner do not die, some escape all its dangers, and reach the age of conscripts. But recruiting experiences prove that lamentable results are brought about by such defective management of young children. There is not only a decrease in numbers, but there is also a degeneration of the race. The standard of height is lowered from year to year, and the number of rejections increased."

ART. 257.—On Congenital Encephalitis and Myelitis.

By RUDOLPH VIRCHOW.

(Virchow's Archiv, Bd. xxxviii. Hft. 1, 1867; Gazette Hebdomadaire, No. 17, 1867.)

The condition of the brain in infants still-born, or dying soon after birth, is a very important point in forensic medicine. Yet, as Virchow remarks, in reports which exercise so considerable an influence as proofs either of innocence or of crime, the conclusions of the expert do not rest upon a strict scientific basis. Very often it has been admitted that a child died from apoplexy, when at the autopsy nothing more was found than congestion of the vessels of the brain and its membranes. Unfortunately it would be difficult to establish the extent of vascularity which corresponds to death. It must, therefore, be asserted that as these examinations are not based upon strict scientific data, they can supply only uncertain conclusions.

Numerous researches have demonstrated to Prof. Virchow that in a very great number of young children still-born, or dying a short time after birth, a form of alteration is presented which has a much more important significance than central congestion. This consists in changes in the nerve-tissue itself, which can only be recognized with the aid of the microscope. All that is required in order to discover the existence of this alteration is to place under the microscope a thin section of central substance. It is in the cells of the neuroglia, that is, in the interstitial tissue of the brain, that the principal characters of these morbid changes have to be sought for. The alteration is in a fatty metamorphoses of the cells of the neuroglia. These elements increase very much in size; they become filled with fat globules, and for some time form large round granular bodies, in which the nucleus which disappears soon afterwards may still be recognized. Finally, in a more advanced stage, there can be seen only small round masses made up of fat globules, round which no membrane can be perceived. These granular bodies and masses of fat globules have their seat particularly in the white substance of the brain, the gray matter is only affected secondarily. They are met with principally in the hemispheres of the brain, and in the columns of the cord. In cases where this morbid change is very marked, most of the cells of the neuroglia, in the regions named above, undergo transformation, and then the tissue under the microscope is seen regularly dotted with small fatty masses, of a dark color, when the light is transmitted. These masses, when of small size, are quite distinct from the nerve-tissue; and when they are large they may be perceived to be made up of an agglomeration of small globules, which, after the tissue is broken up, separate and float about in the fluid upon the glass.

Nerve-tissue may contain a very great number of these altered elements without presenting to the naked eye or to the finger any evidences of change either in color or consistence. In some cases, however, one may discover upon the cut surface of the brain or spinal cord small spots, points, or patches of a yellow color, frequently only just visible; but in some rare instances from one quarter to one half of an inch in extent. Altered consistence may present itself in some cases where there is destruction of the nerve substance. There exists, then, a *ramollissement*; and in these very rare cases the whole of the interior of the hemispheres of the brain may be found converted into a softened mass, which can be easily reduced to a semi-liquid state.

The spots cannot be easily confounded with other forms of morbid change, but the extensive pulpy softening cannot be distinguished from post-mortem *ramollissement* except by the aid of the microscope, which exposes the cells of the neuroglia filled with fat globules. The softened tissue is generally of a pale color; but when there has been extreme hyperæmia, or rupture of the blood-vessels, it may be red or reddish-gray.

Such are the principal alterations that are observed. These are evidently the results of some interstitial process. But what is the real nature of these

changes? Are they due to disturbed nutrition, to atrophy, or are they produced by active irritation? Virchow holds that these lesions constitute encephalitis and interstitial myelitis.

In fact, the progress of the changes in the cells of the neuroglia corresponds with the idea of inflammation; enlargement of the cells, increased number of granular contents, division of the nuclei and multiplication of the cells precede the fatty transformation. The process has at its commencement sometimes the character of hypertrophy, at other times that of hyperplasia; hyperæmia frequently so intense as to justify the pathologist in giving to this condition of things the name of apoplexy, supports this view; hyperæmia, it is true, is one of the least constant and most uncertain signs; but although it is frequently absent, and does not supply any reason for suspecting any lesions, it may, in certain cases, be so marked as to give to the brain a notable appearance. The congested white substance of the brain contrasts very strongly with the gray matter, this is comparatively pale, whilst the white substance itself has become very red. On making a section of the brain, the relations of the two substances seem to be inverted, and one could easily imagine the white substance to be on the surface of the organ. The question of the etiology of these special changes becomes a very important one to determine. Up to the present time Virchow has observed these lesions, particularly in cases of syphilis and of the acute exanthema, principally smallpox, when the mother alone has been affected with the disease and the child has presented no trace of the eruption. But it remains to discover how far rheumatism and the puerperal state may act in the production of encephalitis; whatever may be the cause, a child is often said to have died from atrophy or diarrhoea when the autopsy demonstrates the existence of an inflammation of the white substance of the brain. In addition to the importance of the encephalitis of newly-born children from a medico-legal point of view, it would be interesting to decide upon the possibility of a cure of the disease, and whether these morbid processes have not an active influence upon the production of infantile paralysis or icterus.

ART. 258.—*Icterus of Infants.*

(*Meigs' System of Obstetrics*, 5th edition.)

The icterus of the young child, Dr. Meigs says in his valuable work on midwifery, doubtless depends upon the resorption of bile from the *pori biliarii* into the returning branches of the hepatic vessels, whereby the whole mass of the blood becomes stained with its yellow coloring material, which begins to appear first upon the colorless adnata, and next upon the whole dermal surface. Such a state of the skin does not imply a primary disease of the liver itself, since there are certain irritations affecting the duodenum, producing some degree of engorgement round about the *ductus communis choledochus*, and passing up along that tube, which might well suffice to detain the secreted bile in the *pori biliarii*, and cause its regurgitation in the manner above indicated. A dose of purgative medicine, freeing the stomach and duodenum, and jejunum from some certain saburra, and relieving them thereby of a troublesome hyperæmia, seems to Dr. Meigs likely to set the gates of the bile wide open, so that the regurgitation no longer being affected, the constitution soon eliminates the coloring matter of the bile from the blood, leaving the skin to recover its healthful hue and softness. In those cases in which the inspection of the dejections shows that the bile escapes freely through the *ductus communis* into the duodenum, Dr. Meigs is always willing to wait for the result of such outflowing of the liquid, and the spontaneous return of the liver to its normal functional rate. Whenever, on the contrary, he discovers whitish or clay-colored stools, or stools tinted faintly with a whitish-yellow bile, he administers to his patient some doses consisting of the sixth part of a grain of calomel, repeated three or four times a day, and followed by a convenient quantity of castor-oil or magnesia, or other approved aperient.

ART. 259.—*Two Cases of Fatal Hemorrhage from the Gums after Scarification.*

By JAMES YOUNG, M. D.

(*Edinburgh Medical Journal*, June, 1867.)

At a meeting of the Obstetrical Society of Edinburgh, on the 13th February, Dr. Young read the notes of two cases of fatal hemorrhage after scarification of the gums, which occurred in his father's practice some years ago. Sir James Simpson or Dr. Alexander Simpson saw one of them along with his father.

"CASE 1.—A child living in the Crosscauseway, aged twenty months, presented no evidence of disease in any respect beyond the ordinary irritation from teething. The teeth already cut had each produced some disturbance, but without requiring scarification. With the first eye-tooth, some febrile symptoms were manifested. My father was sent for, and without the least hesitation he advised scarification of the gum, which was forthwith done. A sudden and rather profuse welling of florid blood immediately appeared, and not at once ceasing, as is usually the case, pressure with thumb and forefinger was applied. The hemorrhage seemed to be allayed, but on withdrawal of the finger, it continued to ooze up and fill the mouth. Nitrate of silver was applied steadily and pressure again, and yet the blood continued to flow. My father became somewhat anxious, and sent for me. We applied lint, moistened in a solution of the perchloride of iron and glycerine, with as much pressure as possible, and yet the hemorrhage continued. The last alternative was the hot wire, which was applied the same evening, after Sir James Simpson had seen the case. Next morning, although pressure had been kept up more or less during all the night, and the child fed on beef-tea and wine, with use of iron internally, the hemorrhage continued. After twenty-four hours' incessant oozing, the child became pale and exsanguine, and yet, extraordinary to say, the child lived for three or four days. Nothing had the least effect in checking the flow of blood, except the pressure, and only so during its application. There was no hæmorrhagic diathesis; the child had never lost blood before, was perfectly healthy, of healthy parents. The blood was florid. The question here arises, how deep should the scarificator be pressed into the gum, or should the gums be scarified at all, until the teeth are shining through? Scarification may be necessary when the tooth is not close at hand, and the same tooth may require to be cut repeatedly. I have known a case of this kind where the child was attacked with convulsions, which ceased from the incision of the gum; the wound healed up, and the convulsions returned not less than six times from the same tooth, and ceased every time after cutting the gums. Then, again, suppose the scarificator to be placed deeply in the gum, is it possible that the small offsets or minute twigs of the dental or alveolar branches of the internal maxillary artery could bleed to such an alarming extent without some other cause? What that was, I leave my seniors to divine.

"The second case occurred at Holyrood; the only difference being that in this case it was the first molar tooth of the upper jaw, while in the first case it was one of the eye-teeth of the lower jaw. The child here was about eighteen months old, and had neither in itself nor mother presented any symptom of a hæmorrhagic tendency. The same result followed the scarification, the same treatment was pursued, and, I regret to say, it had the same painful issue. The child survived one week."

Sir James Simpson thought such cases very uncommon. Mr. Robertson, he said, had been in the habit of using an instrument to produce steady pressure on the gum in cases of hemorrhage. In cases of umbilical hemorrhage, Dr. Churchill had proposed the use of sulphate of lime powder. He spoke of a case of umbilical hemorrhage he had seen with Dr. Moir—a child—where the umbilicus was transfixed with needle and suture. The hemorrhage ceased for a while, but returned. The perchloride of iron was applied, and the child recovered.

APPENDIX.

The Report of the Venereal Commission.

(*British Medical Journal*, January 1 and 8, 1867.)

The following is an abstract of some of the leading points of interest in the Report of the Committee appointed by the Lords of the Admiralty to inquire into the best mode of treatment of the Venereal Disease, with a view to diminish its injurious effects on the men of the army and navy:—

That part of the Report which relates to the prevention of venereal disease, having been required for the use of the Legislature, was forwarded to the authorities in February, 1866, and an Act, entitled “An Act for the better Prevention of Contagious Diseases at certain Naval and Military Stations,” 11th June, 1866, was passed in the last session of Parliament, in entire accordance with the recommendations of your Committee. A copy of that Act is appended to this Report.

I. On the subject of prevention, the Committee have no further suggestions to offer; but they would at the present moment, when the attention of Parliament is drawn to the subject of better legislation for the mercantile marine, respectfully call attention to the concluding passage of that Report, referring to “the fertile source of disease in our sea-port towns afforded by the sailors of the merchant service.”

II. Referring to the declaration of Dr. MacLoughlin laid before the Admiralty, that the health of the men in the public service (soldiers and sailors) is habitually damaged by the use of mercury, which the writer alleges to be indiscriminately administered by surgeons in the public service, for the cure of a disease, which, in his opinion, has no existence, they affirm that, on the contrary, the evidence establishes that the practice generally adopted in the Navy and Army is in accordance with the methods most approved by the highest authorities in the profession, and that the medical officers of both services have shown themselves to be thoroughly impressed with the importance of a careful and judicious treatment of the disease. They also affirm that there is a syphilitic virus, and that syphilis is a disease as specific as smallpox.

III. As to the *origin of syphilis*, several of the witnesses, and with them a portion of the committee concur in opinion, expressed their belief that syphilis, under favoring circumstances, may be generated spontaneously. That syphilis was first introduced into Europe at the latter end of the fifteenth century, is an opinion now entertained by the few.

IV. Of Venereal Sores they describe two species: the *syphilitic* and *simple*. The *simple local sore*, the influence of which never extends beyond the inguinal glands, is eminently contagious, producing similar sores, but is incapable of infecting the constitution; like gonorrhœa, it is often the product of irritating and contagious secretions. This is the most common form of venereal sore, and prevails over all other varieties in a ratio of about four to one.

The syphilitic sore is seen under three forms: one characterized by induration throughout its entire course; one soft in its early stage and becoming subsequently indurated; and one soft throughout its whole course, but which, unlike the simple local sore, is followed by constitutional disease. All primary venereal sores are liable to involve the inguinal glands; the soft frequently, the hard almost invariably.

The evidence is conclusive as to the impossibility of pronouncing with certainty upon the character of a sore on its first appearance, *i. e.*, as to whether it will or will not be followed by constitutional symptoms; in other words, whether or

not it be a syphilitic sore. As a rule, however, the exceptions to which are rare, a soft sore, whether followed by suppurating bubo or not, is only a local disease, and does not infect the constitution; and an indurated sore, more especially if accompanied by indurated inguinal glands, does infect the constitution.

V. The constitutional manifestations of syphilis follow the primary sore at an uncertain interval of time, ranging from four to ten weeks, the average term being about six weeks.

Although the evidence tends to the belief in the occasional development of any of these forms of eruption and other disease, in a given case, the Committee have sufficient ground for expressing their opinion that the dry and painless forms of eruption, viz., psoriasis, lepra, and tubercle, but especially the two former varieties, constitute the predominant symptoms following the indurated sore, and that the remainder more commonly follow the varieties of the soft or moist sore.

VI. *Syphilis in its ultimate form* is capable of affecting every organ of the body. The changes which occur in the inveterate forms of the more advanced stages of syphilis, are due to the deposition of a fibro-plastic material in the various tissues of the body. This product appears to be identical with that which, in the so-called "secondary" stage, is exuded in the bones, in the glands, on the iris, and indeed in the indurated chancre itself; but is now liable to be poured out in any structure, where areolar tissue exists. In addition to these characteristic and peculiar effects of syphilis, there is a tendency in those who have long been its victims to suffer from degeneration of the tissues of the body; and thus a very frequent cause of the mortality in long-standing syphilis is a universal fatty or lardaceous decay of the organs.

VII. *Hereditary Syphilis* is the cause of a number of cases of still-births and abortions, and of well-known changes in the development of the infant. Thus, very often the whole body is puny, the forehead projects, the nose is flattened, the skin around the mouth is often puckered from old ulcerations; and lastly, and most important, a peculiar change takes place in the teeth, the incisors being dwarfed in size, narrowed, rounded, and notched.

VIII. As to the *Period of Incubation*. Upon the whole, the weight of evidence greatly preponderates in favor of the view that there is no definite period of incubation, either for the infecting or the non-infecting sore; assuming the term incubation to imply such a uniformity as exists in the period of incubation of other specific diseases, as measles, smallpox, etc.

IX. As to the date expressed at which the constitution is involved. It is possible that the poison of syphilis may be carried into the circulation from the moment of contact, in whatever manner that is effected; but it is more probable that time is required to this end.

X. The *mode* in which the poison is received into the system is equally doubtful.

XI. As to the question of *unity or duality of virus*, they add, that there is probably but *one* true syphilitic poison exerting its influence upon the soil in which it is implanted, producing various forms of true syphilitic sores, differing in different individuals, modified by health, and by constitution, by locality, and probably by its ever-varying intensity.

XII. Of thirty-three witnesses, twenty-three asserted that one attack of syphilis gives no future immunity.

XIII. As to *relapses*, and the period of safety for marriage. The subject admits of division into safety as respects imparting the disease in its secondary stage to the other sex, directly through the medium or the secretions; and safety as respects imparting it indirectly, through the foetus to the mother. Some witnesses do not admit the former liability, while the majority consider that secondary disease may be directly imparted through the medium of a moist secretion, as from a tubercle; but all agree in the belief that a syphilitic father, though presenting no appearance of disease, may beget a syphilitic child, and that that child, through the medium of its blood, may impart the disease to its previously healthy mother.

XIV. Evidence is conclusive to the effect that syphilis may be communicated by intercourse during either of its stages, local or constitutional.

The Local and other Varieties of Soft Sore.—The simple or non-infecting sore (and, indeed, all sores unmarked by specific induration) should be treated almost entirely by local applications, having for their object to allay pain or inflammation, and protect the sore from injury. There is no remarkable feature in the progress of the inguinal glands towards suppuration which demands comment. Their liability to suppurate, however, renders the destruction of the sore by escharotics desirable. Such treatment should only be resorted to in the earliest stages of the sore, and probably not later than two days from its first appearance.

Mercury will neither arrest the progress of glandular enlargement, nor prevent suppuration.

The balance of two opinions is rather favorable to treatment of the primary hard sore by mercury. The alternative to the employment of mercury consists in simple local treatment, the avoidance of local irritants, whether medical or mechanical, attention to cleanliness, and to the improvement of the general health.

If treatment by mercury be selected, the agent should be administered more freely to a strong and vigorous person than to one of delicate habit; and whatever the mode of exhibition, whether employed internally by the mouth, by injection, or by means of vapor-baths, the first indication of its presence in the system should be accompanied by a reduction of the quantity employed, and the reduced dose maintained so long as an impression is made on the deposit, and the bodily health of the individual remains undisturbed.

Treatment of primary sores, whether by excision or by escharotics, constitutes a prominent feature in the modern practice of surgery, and, under favorable conditions, may be resorted to with great advantage.

In the case of the soft infecting sore, it is obviously of great moment to destroy the local poison, and avert the train of constitutional symptoms which may possibly, nay, probably will, follow. Should the destruction of this sore by caustic fail of its object by reason of its imperfect application, or of the too advanced stage of the sore, it is not improbable that the consequences would be injurious, and that an earlier development of the poison in the system would result. The rule of practice, which limits the operation of destruction to the two or three days from the first development of the sore, must, therefore, be strictly adhered to. For the reasons before given, it is an operation which can rarely be resorted to with a prospect of success in the hospital class of patients.

The application of local agents for the purpose of destroying the hard sore is useless.

XVI. *Treatment of Syphilis, i. e., Constitutional Diseases.* *Mercury.* The opinion of the Committee is unanimous in favor of mercury as the most efficient agent yet known in the treatment of constitutional syphilis. Mercury cannot be deemed a specific in the ordinary acceptance of that term, and does not appear to exercise any direct influence on the poison of syphilis, but on the effects of the poison only. If there be any forms of syphilis in which mercury is especially contraindicated, they are the pustular and rupial forms of the disease. When the gums and breath are affected, it may be inferred that the maximum quantity of mercury that can prove serviceable in the treatment has been reached, and it is desirable to reduce the quantity.

Sarsaparilla possesses no especial virtues of its own, and is inferior to the various forms of bark.

The same remark may be made of guaiacum, sassafras, and of the Indian root of Mudar, which at one time was largely employed by the natives of India as a supposed antisyphilitic agent.

Upon this important branch of their instructions, the Committee are of opinion—1. That, until a more efficient remedy be discovered, the occasional employment of mercury cannot be dispensed with; 2. That, employed in moderation, and under judicious restrictions, it is to the large majority of constitutions harmless; and 3. That, when employed in such larger quantities as will cause salivation, the excess is not only useless, but assumes the character of a poison.

The belief in the value of mercury as an antisyphilitic agent is strengthened by observation of its remarkable influence in the hereditary syphilis of new-born

children. The evidence of the witnesses testifies strongly to the value of mercurial treatment, by the adoption of which children in great numbers are annually restored to health.

XVII. Although they have reason to believe that *Syphilization* may prove serviceable in such chronic cases as have failed to yield to more ordinary treatment, they have no sufficient evidence of its curative properties to outweigh the obvious objections to its general employment; and, even accepting the entire truth of the reports of its curative powers, the treatment is repugnant to the habits and feelings of the profession in this country, and, in the majority of cases, is slow of operation.

XVIII. The syphilis of infants has no enemy to contend with more potent than a weak and anæmic state of the constitution, which disappears on the improvement of the general health. The disease, for the most part, according to the evidence above referred to, attacks children ill-nourished and ill-tended, who consequently fail in vigor of circulation. These children are placed on a nourishing diet, and supplied with strengthening remedies, medical and dietetic; and the disease subsides, and the cure is declared to be effected at a shorter date than that obtained through treatment by mercury.

Such is the evidence before the Committee, founded, however, on a rather limited number of cases, but which, although numerically small, is sufficiently important to claim the attention of the profession, and to justify a renewed inquiry in a larger and more general field of observation.

XX. *Phagedæna*. In nearly all forms of phagedæna, the morbid action will cease on the destruction of the affected part. The agent most generally resorted to is nitric acid, which, in the less active forms of the disease, may be reduced in strength by the addition of three, six, or eight proportions of water. In the severe and destructive examples, nothing short of the strong acid, or any other equally powerful escharotic, will suffice to arrest it. The constitutional forms are extremely intractable. They defy the ingenuity of the surgeon, and set at naught every variety of remedy brought to bear on them. With a worn and debilitated frame, bark, iodine, mineral acids, wine and nutritious food, and the freshest accessible atmosphere, are the principal remedies on which reliance must be placed.

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